PAPER
TRADE JOURNAL
Title Reg. U. S. Pat. Off.
Vol. 112, No. 5 Thursday, January 30, 1941 Price Ten Cents

Paper Mills Planning New Safety Contests

Appleton Coated Paper Co. Starts New Safety Campaign With Contests—Kimberly-Clark Names New Safety Committee—Many Mills Have Installed Pulp Saving Devices—Other Industrial News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., January 27, 1941—A new safety campaign has been started by the Appleton Coated Paper Company, Appleton, Wis., according to announcement of Fred C. Heinritz, secretary. Two members of a committee of nine will make an inspection of the plant each Monday, and the committee will meet the first Monday of each month to discuss and develop the program. Bulletin boards have been erected to carry news of the program and suggestions for safety. Contests also will be arranged.

Serving on the committee are Henry Ashman, Elmer Casper, Roland Haase, Richard Johnson, Elmer Koerner, Elmer Luedtke, Walter Pierre, John Reeve and Fred Van Wyk.

Kimberly-Clark Corporation also has named a new safety committee at its mill at Kimberly, Wis., with A. J. Courchane as chairman. Each department is to have a representative on the committee.

Regular meetings are to be held the last Tuesday of each month to check up on the progress of safety efforts. A six months' contest is planned with the company's mill at Niagara, Wis., to begin February 1.

Many Mills Now Use Pulp Saver Devices

Pulp saver devices have been installed in most of the paper mills at Appleton, Wis., and the majority are now discharging their waste into the city's new disposal system. The Fox River Paper Corporation is the latest to connect with the system, and is discharging several million gallons per day.

The Atlas mill of Kimberly-Clark Corporation was the first to connect with the system for its sanitary waste, and arrangements will be made next summer to discharge its industrial waste also. Other plants now connected include Tuttle Press, Appleton Wire Works, Wisconsin Wire Works, Appleton Coated Paper Company, Appleton Casein Company, Appleton Machine Company, Valley Iron Works and Riverside Paper Corporation.

The Riverside mill has been experimenting with pulp saver systems, and has reduced its pulp fiber loss from five per cent to one per cent, and expects to cut it soon to one-half of one per cent. The Interlake Pulp and Paper Company has also reduced its pulp losses through saving devices, but still is trying to solve the problem of disposing of black liquor from its sulphite mill. The Institute of Paper Chemistry is also working on this problem through a joint research effort of all Wisconsin sulphite mills.

Mill Credit Unions Make Good Reports

The Bull's-Eye Credit Union of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., reported the addition of 272 new members when its annual meeting was held last week. It now has a total membership of 1,235. Loans amounting to $99,213.09 were made during the year 1940. A dividend of four per cent was declared to members. Lawrence Villeneuve was elected president for the ensuing year.

Reports presented at the annual meeting of the Marathon Paper Mills Company Employees' Credit Union, Rothschild, Wis., showed a membership of 727. Donald Heide, attorney of Wausau, Wis., spoke at the meeting on the making of wills. Norman J. Dumdei was reelected president.

The Combined Locks Credit Union of the Combined Locks Paper Company, established in 1937, now has assets of $11,538.35, according to the report submitted at the annual meeting. Walter Hipp has been elected president.

Paper Men on Bank Directorate

Among the directors reelected by the First National Bank of Neenah, Wis., at the annual meeting are: J. N. Bergstrom, president of Bergstrom Paper Company; D. K. Brown, first vice-president and general manager of the Neenah Paper Company; C. B. Clark, president of Riverside Paper Corporation, and F. J. Sensenbrenner, president and Ernst Mahler, executive vice-president, of Kimberly-Clark Corporation. Mr. Bergstrom is vice-president of the bank.

The National Manufacturers Bank, Neenah, Wis.,

(Continued on page 11)

Britain Now Exporting Straw Pulp Paper

London Dispatch States Cargoes of Paper Made From Straw Are Now Being Shipped Overseas — Scottish Paper Makers Approve Product — Petition To End Exemptions In Newsprint Prorating.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., January 27, 1941—A dispatch from London just received here, states that cargoes of paper made from straw are now on their way from Britain overseas. The dispatch adds: The achievement is a triumph for British research. Papermakers, during the last conflict, began experimenting with the idea of paper from straw. Since then they have made such progress that to-day they are shipping a product which, although it lacks the qualities of vellum, is excellent for writing purposes. The present difficulty of getting esparto grass from Spain and North Africa has thus been overcome and paper made from straw is available for export in virtually every grade and type, with the exception of newsprint. Scottish papermakers are notoriously critical of new processes in paper making, yet one of them states that the new product is well up to standard and that this expedient may well become the regular practice of peace time."

C. P. P. A. to Present Medals

At the annual meeting of the Canadian Pulp and Paper Association the two medals presented for papers submitted to the Technical Sections will be presented as follows: The Weldon Medal, donated annually by A. L. Dawe, to E. G. Kirby, of the Ontario Paper Company; the Howard Smith medal, donated annually by Harold Crabtree, to A. C. Rogers, of the Fraser Companies Limited.

Would End Prorating Exemptions

The Quebec Government has received a petition from 14 municipalities in the province demanding that exemptions in newsprint prorating be removed. These municipalities are: Bagotville, Chicoutimi, Dolbeau, Jonquiere, Kenogami, Port Alfred, Roberval, Shipshaw, St. Alexis, St. Felicien, St. Honore, St. Jerome and St. Joseph d'Alma. It is pointed out that under the proration arrangement made in 1938 between the Government of Quebec and Ontario, all the mills in the municipalities mentioned and nearly all others in newsprint manufacturing districts in the two provinces are required to share their work with each other, in order to spread out employment and maintain payrolls as evenly as possible. An exception permitted to this general rule is the Ontario Paper Company a subsidiary of the New York News and the Chicago Tribune, which has mills at Thorold, Ont., and Comeau Bay, Quebec. Because this company is exempt some other companies only partially pro-rate their orders. The petitioning municipalities claim they have suffered, as the average employment in their mills has been little better than half time, while during the whole period the Ontario Paper Company's mills have been operated full time. It is claimed there has been a similar situation of part time in the areas centering around St. Anne de Beaupre, Donnacona, Cap de la Madeleine, Three Rivers, Shawinigan Falls, Grand Mere, Bromptonville, East Angus, Buckingham and Hull and all of the Lake St. John district. The petitioners say they can see no reason why the Ontario Paper Company should be exempted because it uses all its products for printing its own papers. They admit that at present the newsprint industry is busy, and that at the moment it would make little difference if the Ontario Paper Company were allowed to continue exempt, but they maintain nevertheless that the principle should be enforced because the government should "use the present period of better employment to prepare against a future which may be worse than anything experienced since prorating went into effect."

Ontario Paper Co. Shipments in 1939

The Ontario Paper Company has been publishing an advertisement in some of the papers here stating that in 1939 the newsprint exported by the Ontario Paper Company to the New York News and Chicago Tribune had a value of $13,767,226, which supplied Canada with United States orders to buy airplanes, tanks, ships, guns and ammunition.

Many Swedish Pulp Mills Closed

A dispatch received here from Stockholm states that owing to the blockade many of Sweden's pulp, paper and saw mills have been forced to stop operations entirely or in part. The chairman of the General Export Association of Sweden, Torsten Hernod, is quoted on the situation as follows:

"Naturally, Sweden has tried to increase its exports to countries to which trade routes still were open, but these markets are in position to consume only a small share of what the country needs to export this Swedish trade expert further emphasized. He also mentioned that great efforts are being made in order to obtain from wood substitute products for commodities which cannot be imported owing to the war. Successful experiments had thus been made with cellulose, prepared in a special way, as cattle feed, and small parcels of such pulp had been produced. New factories for production of sulphite spirit were being built and an expensive plant for the obtaining of soap oil from by-products gained at the manufacture of sulphite pulp, had been started. Measures like the above-mentioned had contributed to increase somewhat the supply of work in the Swedish forest-products industries, although, naturally, far from enough to maintain a normal employment."

Southern Pulpwood Men Meet

W. J. Damtoft of Canton, N. C., was elected president and A. H. Stier of Fernandina, Fla., was elected vice president of the Southern Pulpwood Conservation Association at the annual meeting of the association which was held in Atlanta, Ga., recently.

Members of the executive committee include M. S. Kahler, Savannah, Ga.; C. O. Brown, Mobile, Ala., and E. A. Sterling, Montrose, Pa.

Chicago Reports Stronger Paper Market

Sulphite Papers In More Active Demand As Buying In Midwest Area Broadens — Kraft Paper Sales Continue At High Level — Waste Paper Market Strong — Merchants Hold Annual Meeting.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., January 27, 1941—The Chicago paper market continued to show fundamental improvement during the past week. Orders were reported as much more plentiful and prices were stiffening in virtually all grades. No specific price increases were reported but it was evident that the "slack" was being taken up to the point where further upturns would break through the present base. Krafts were quite active with demand widening while groundwoods likewise indicated material activity. Sulphites were very firm in all grades with market demand broadening. Books and covers found buyers willing to make commitments for merchandising campaigns. The board market was firm and waste papers continued steady to strong.

Merchants Association Elects Officers

The Western Paper Merchants Association held its annual meeting in Chicago on January 14. Paper executives representing seven midwestern States met at the Union League Club to elect officers for the ensuing year and to discuss policies to be followed by the group. W. W. White, vice president of the James White Paper Company, was elected president of the Association to succeed W. N. Gillett of the Chicago Paper Company. Mr. Gillett will continue as a member of the board of directors. The first vice president for the coming twelve months will be A. B. Tucker of Parker Thomas & Tucker while E. V. Zabringer of the Messinger Paper Company will act as second vice president. C. R. Braatsch of the Chicago Paper Company, will be the secretary-treasurer while G. E. Howell will continue as secretary of the group. Other members of the Board in addition to Mr. Gillett are J. M. Abel of the J. W. Butler Paper Company; C. W. Bryce of the Wisconsin Paper Company of Milwaukee; E. H. Kniep of Shaughnessy-Kniep-Hawe Paper Company and Harold Leahy of the LaSalle Paper Company.

B. & P. Add to Sales Staff

The Bermingham & Prosser price list, issued to the trade this week, indicates the addition of Cromwell Centaur Tympan and several Munising products including Brad Pak and Brilliant Coated Gummed papers. The mailing includes a new "personnel" page and the listing of J. A. Bermingham as the latest acquisition to the sales staff.

Frisbee Wins Prize Contest

A. Bradner Smith & Company sales executive, Joseph Frisbee, is reported to have captured first honors in the Corroflex prize contest held under the auspices of the Sherman Paper Products Corporation. The contest, participated in by a large number of entries, provided awards for those developing the most successful and unique sales approach and resultant ability to sell Corroflex, a corrugated packing material that is very popular in this market. Mr. Frisbee was awarded first prize of $250 in a contest that helped materially in developing wide variety of new uses for the product itself.

Paper Men on Tax Committee

The Committee on Federal Taxation of the Illinois Manufacturers Association contains the names of two gentlemen well known to the paper industry. J. D. Swigart of the Swigart Paper Company and Lawrence Combs of The Container Corporation of America are members of this Committee which is charged with the task of examining tax legislation and of interpreting the wishes of the manufacturers of Illinois as well as of recommendation procedure to the Manufacturers Association. Both Mr. Swigart and Mr. Combs were appointed on January 1 and will serve for a twelve month period.

Salesmen Honor F. D. Patterson

The midwest division of the Salesmens Association of the Paper Industry utilized its Monday, January 13, meeting to honor F. D. "Pat" Patterson, sales executive of the Flambeau Paper Company. Pat has been golf chairman of the Association for the past season and his work was so creditable that the group presented him with a traveling bag in recognition for his services. Attendance at the meetings and the difficulties of continuing interest during the five monthly tournaments were both stressed as sufficient reason for honoring Pat with Courtney Reeves, Allied Paper Mills, doing the stressing and the presenting.

New Paper Chemicals

Substantial advances have been made by the American Cyanamid and Chemical Corporation, 30 Rockefeller Plaza, New York, in sizes for paper during 1940. Among the new products of this class are a high free rosin size, Aerosize 400, which possesses stability to hard water, is easily handled, and produces improved resistance to lactic acid (important in milk bottles).

A new wax emulsion stable to acid and alum, sold as Alwax 251, is stable to handling, free from foaming and can be used in the beater or size tub, or for surface sizing on the calender rolls. Acid stable rosin-wax sizes used in combination with rosin size eliminate operating difficulties previously encountered with other types of wax size, and give higher sizing efficiency.

Paper Resins 600, 620, 621, and 640 are emulsions of Melamac and Beetle resins used in water leaf or sized sheets for producing special finishes and are also to impart high wet strength, resistance to rubbing when wet, and lower dimensional sensitivity to humidity.

At Kalamazoo, Mich., additions to existing plant of American Cyanamid and Chemical Corporation for the manufacture of paper sizes and for processing casein were put into operation in 1940.

Paper Box Companies Appeal Hearing Opens

Appeal of 19 Paper Box Manufacturers Against Judgment Rendered Last September Carrying Fines Totaling $162,000 May Be Continued For Week — Validity of Indictment May Be Attacked.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., January 27, 1941—Hearing of the appeal of one individual and 19 paper box companies, against judgment of Mr. Justice Hope, under combine charges last September, opened at Osgoode Hall last Monday, before five judges of the appellate court and has been under way all week and will probably last for another week. Mr. Justice Hope fined the accused companies from $2,500 up to $10,000 each, a total of $162,000, and found them guilty of conspiring to arrange prices and lesse competition in the production and manufacture of paper boxes, restrain and injure trade and lessen the facilities for the manufacture of such products.

Box Manufacturers Listed as Defendants

The Ontario court of appeal is represented by Chief Justice Robertson, Mr. Justice Middleton, Mr. Justice Masten, Mr. Justice Fisher and Mr. Justice Henderson. The crown was represented by J. C. McRuer, R. M. Fowler and J. L. McLennan. The appellant defendants and counsel were: H. J. Badden and Container Materials, Ltd., by D. L. McCarthy and H. E. Manning; Shipping Containers, Ltd.; Standard Paper Box, Ltd., by Lionel Forsythe; Canadian Boxes, Ltd.; Martin Paper Products, Ltd.; Maritime Paper Products, Ltd.; Wilson Boxes, Ltd., by F. W. Wegenast; G. W. Hendershot Corrugated Paper Company, Ltd., by H. E. Manning; The Corrugated Paper Box Company, Ltd.; Gair Co., Canada, Ltd., Hinde and Dauch Paper Company of Canada, Ltd.; Martin-Hewitt Container Ltd., Canadian Wirebound Boxes, Ltd., Hygrade Corrugated Products, Ltd., and Hilton Bros., Ltd., by A. G. Slaght; R. G. Dunn, (wirebound boxes), by J. M. Robb; Acme Paper Box, Ltd., by Joseph Singer; Superior Box Company, Ltd., by F. W. Wegenast, and Miss M. Purney.

Validity of Indictment May be Attacked

Mr. McCarthy, for Container Materials, Ltd., intimated that an attack would be made on the validity of the indictment brought in by the grand jury in Ontario Supreme Court. He also stated objection would be taken to the admission in evidence of documents improperly authenticated. Of the 19 companies charged, he said, 12 were resident in Ontario, two in Quebec, two in Manitoba, one in British Columbia, one in Nova Scotia, and one in New Brunswick.

"An argument will be addressed to your lordships," continued Mr. McCarthy, "to the effect there is no authority under the code to bring these extra-provincial corporations within the province for trial."

In the trial by Mr. Justice Hope the outside companies were not represented and his lordship had directed that a plea of not guilty be presented in their behalf. Asked about this Mr. McCarthy said no evidence was put in on behalf of any of the defendants because they agreed that it was unnecessary.

Mr. McCarthy also took exception to the method of handling the documents seized by Sergt. Christie of the Royal Canadian Mounted Police, in provinces from coast to coast. Under the criminal code, he contended, these documents continued to be the property of the accused and should have been placed in the custody of the magistrates issuing the search warrants. Instead, they had all been brought to Toronto and stored, and the crown selected what it wanted for evidence.

Consultation Declared no Crime

"It is no crime for persons 'to get their heads together' so long as it is not for a sinister or unlawful purpose," Mr. McCarthy told the court. He said that the trial judge had seized on a statement of counsel as an admission that there had been an illegal conspiracy. He outlined the arrangement by which Container Materials bought the output of the various companies and then appointed the latter as its agents to sell the products on a commission basis. "They would have to get their heads together to formulate a plan of this kind," said Mr. Justice Fisher.

"Lawyers sometimes get their heads together to solve difficult problems," continued Mr. McCarthy. "Doctors sometimes get their heads together for purposes of diagnosis, and I suppose even judges get their heads together when they have difficult problems to solve on the bench."

Mr. Manning, associated with Mr. McCarthy, explained in detail the arrangement as between Container Materials and the other companies and contended that the agreements were for a quite different purpose than restricting production as charged. They were for the promotion of the business and for merchandising the products of the different companies which signed the agreement with them, he said.

Mr. Manning explained the arrangement provided for by the agreement under which the companies were to manufacture a certain quota and were to be awarded if they exceeded it and penalized if they came under it. The agreements provided penalties for infractions and the amount so levied from 1931 to 1939 was only $2,500, although in that time the business had amounted to more than $50,000,000.

As to the pooling arrangement made by the agreements, Mr. Manning said that no tribunal in Canada had found that a pool such as the manufacturers had set up was illegal.

The case is proceeding.

West Virginia Output Up

At the annual meeting of the West Virginia Pulp and Paper Company, Thomas Luke, president, told stockholders that the company produced 880,969 tons of paper, pulp and paperboard in the fiscal year ended October 31, 1940, compared with 750,541 tons in the preceding fiscal year. Production was at 93.2 per cent of mill capacity compared with 79 per cent in the 1939 year, he said.

PAPER MILLS PLANNING NEW SAFETY CONTESTS

(Continued from page 7)

has reelected as directors A. C. Gilbert, president of the Gilbert Paper Company, and S. F. Shattuck, vice-president of Kimberly-Clark Corporation. Both are vice-presidents.

Patent Granted to Hans John

A patent has been granted to Hans John of Appleton, Wisc., for a process of precipitating resinous composition from spent sulphite liquor. He has assigned the patent to the Paper Patents Company, Neenah, Wis.

Michigan Pulpwood Producers Meet

Pulpwood producers of the Upper Peninsula of Michigan held a meeting at Negaunee, Mich. Saturday, January 18 to discuss wage and hour standards. John J. Brauner, assistant regional director of the wage and hour division of the U. S. Department of Labor, was present and explained the regulations under which they must operate.

Paper Mills Cooperate with Trades

Numerous paper mills of the Fox River Valley cooperated with the Trades and Labor Council of Neenah and Menasha, Wis., in the second annual union label exhibit held at the S. A. Cook armory last week. They had exhibits of their products. Herman Seide, president of the Wisconsin State Federation of Labor, and Horace L. Conway, secretary of the union label trades department of the American Federation of Labor at Milwaukee, Wis., were among the speakers. The event closed with a mardi gras.

Dr. Cramer Talks at Lawrence College

Dr. H. I. Cramer, assistant professor of chemistry at the University of Akron, Ohio, was the speaker at a meeting of the Northeast Wisconsin section of the American Chemical Society at Lawrence College, Appleton, Wis., last week. He is in charge of rubber chemistry and explained the various types of synthetic elastics and the preparation of various compounds. He was formerly associated with the Goodyear Tire and Rubber Company and the Firestone Tire and Rubber Company.

C. T. Ramsden Elected Vice-president

C. T. Ramsden, formerly a sales engineer for the Beloit Iron Works, Beloit, Wis., has been elected a vice-president of the company by the board of directors. He began his career with the company 45 years ago as a machine shop employee and for the last 27 years has been a member of the sales division as a consulting engineer. He is well known in paper mill circles.

Stanton W. Mead Heads Boy Scouts

Stanton W. Mead, vice-president of the Consolidated Water Power and Paper Company, was reelected last week as chairman of South Wood County district of Samoset Council, Boys Scouts of America, Wisconsin Rapids, Wis. J. J. Plzak, claims manager of the company, was elected secretary.

S. F. Shattuck Speaker at Boy Brigade

S. F. Shattuck, vice-president of Kimberly-Clark Corporation, was the speaker at the forty-first anniversary observance of the Boys' Brigade at Neenah, Wis. He was the founder of the organization and is fondly known as its "stepfather."

F. J. Harwood Estate Valued at $526,492

An inventory of the estate of Frank J. Harwood, late president of Appleton Woolen Mills, Appleton, Wis., shows it to be valued at $526,492.84. Of this amount $19,676 is in real estate and the remainder in personal property. His will included generous bequests to several religious and educational institutions.

Paper Merchants Meet at Columbus

At the annual meeting and election of the Central States Paper Trade Association held in Columbus, Ohio, at the Columbus Athletic Club, on Tuesday, January 21, 1941, Jerome M. Sturm, vice-president of the Diem & Wing Paper Company, was re-elected president of the association, Art Ulrich of the Scioto Paper Company, Columbus was elected vice-president and John L. Richey was elected secretary-treasurer and counsel to serve for the coming year.

New members elected to the association were the MacCollum Paper Company, Indianapolis, and Jack Walkup Paper Company, of Dayton, Ohio. Members in attendance at the meeting reported some increase in business in evidence at the present time with a good outlook for the 1941 on fine paper sales. They also reported only normal inventories at January 1.

On the following day, January 22, also at the Columbus Athletic Club, Columbus, the Middle States Wrapping Paper Association held its annual meeting and re-elected for the coming year, as president, T. Floyd Smith of the Louisville Paper Company, Louisville, Ky., C. V. Jewell of the Capital Paper Company, Indianapolis, as vice-president and John L. Richey, secretary-treasurer and counsel. The wrapping paper merchants present, reported good business volume and only normal inventories at January, with unusually good prospects for sales throughout the year.

In connection with the new sales contest of the National Paper Trade Association, which will be staged during the coming spring, the Middle States Association members voted to contribute a first prize of $25.00 and second prize of $15.00 to the salesmen, of members, of the Association, showing the largest increase in gross profit on their sales during the campaign.

Mill Employees Dine at Carthage

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., January 25, 1941—The annual banquet of employees of the National Paper Products Company was held here during the week with a large attendance. The employes are affiliated with the local branch of the Pulp and Sulphite Workers. William Dalton, president of the local, acted as toastmaster. Speeches were given by Peter D. Sinclair, resident manager of the mill; Glendon Loftus, office manager, and Ernest Loyst, Garnet Beal, G. Elmer Emigh and Ivan Nicholl, mill department heads. Dancing followed the dinner and floor show.

Obituary

A. Frank Smith

A. Frank Smith, vice-president and technical director of The Sarg Paper Company, Middletown, Ohio, died on January 20.

Mr. Smith was born March 24, 1872 at Ypsilanti, Mich., the son of James W. Smith and Orzie Ann Smith. As a small boy his hobby was paper making and he often accompanied his father, a Civil War veteran, to the mill where his father was employed, in order to see paper being manufactured.

He was so interested in paper making that, as soon as he was old enough to secure employment, he left his boyhood surroundings and secured work in a paper mill at Otsego, Michigan. After working for about a year, he secured employment with the C. H. Mead Paper Company, Dayton, Ohio, as a back-tender where he worked during 1888 and 1889.

In order to perfect himself and merit advancement, he often walked to Franklin, Ohio to watch the operation of a Harper Machine in the Friend and Forgy mill. He left Meads and worked for The Aetna Paper Company as a machine tender. After several years, he left the Miami Valley and worked for Tileson and Hollingsworth and later for Hollingsworth and Vose in Massachusetts.

After working several years, he secured his first position as Superintendent of The Eureka Paper Company, Fulton, New York. After successfully operating the Eureka mill for several years, he came to The Paul A. Sorg Paper Company as a Superintendent in February 1903.

In 1917 The Sorg Paper Company purchased The W. B. Oglesby Paper Company and in 1925 started The Frank Smith Paper Company. These three companies, together with The Paul A. Sorg Realty Company, were merged in January 1931. Mr. Smith acted in the capacity of vice-president and general superintendent until 1938, when he was made vice-president and technical director which positions he held until his death, which was due to a cerebral hemorrhage, on January 20, 1941.

He was known throughout the paper industry as an expert paper maker in the specialty field. He was a member of Elks Lodge, Middletown, Ohio; Masonic Lodge, Ypsilanti, Michigan; and Cuvier Press Club, Cincinnati, Ohio.

He is survived by his wife, Myrtle Gruver Smith; and a brother, Fred Smith of Ypsilanti, Michigan.

Edward Breck

Edward Breck, 86, of 989 Chicopee street, Willimansett, Mass., died January 19, in Providence hospital, Holyoke, after a short illness. He had been active in Chicopee politics until about 10 years ago, having been an alderman, health board member and assessor. In 1910 when he retired from the paper business he was superintendent of the Connecticut River Paper company.

Mr. Breck was born November 18, 1855, in Castle Gregory, Ire., and came to this country when he was five years of age with his family, settling in Vermont. At the age of 18 Mr. Breck came to Holyoke and began to learn the paper business.

The Connecticut River Paper company, of which he became superintendent, subsequently became one of the Riverside divisions of the American Writing Paper corporation. He moved to Willimansett in 1888 and became interested in Chicopee politics. On retiring in 1910, he began a real estate business in Willimansett.

He was a member of North Star court, Massachusetts Court of Foresters, and was one of the oldest parishioners of the Church of the Nativity, Willimansett. He leaves a son, John H. Breck of Springfield; a daughter, Mrs. Mary B. Bolton at home; five grandchildren and four great-grandchildren.

The funeral was held at the Dillon funeral parlors in Holyoke followed by requiem high mass at the Church of the Nativity, Willimansett. Burial was in Calvary cemetery, Holyoke.

Foresters to Meet in Syracuse

The annual winter meeting of the Society of American Foresters, New York State Section, will take place at the New York State College of Forestry, Syracuse University, January 30 to 31, according to an announcement issued by the chairman of the meeting, Professor A. B. Recknagel of the Department of Forestry at Cornell University. The meeting will be held in the auditorium of the Louis Marshall Memorial Building; headquarters will be at Hotel Syracuse and the banquet Thursday night, January 30, will be in the Walnut Grill of the Hotel Syracuse at 6:30 P.M.

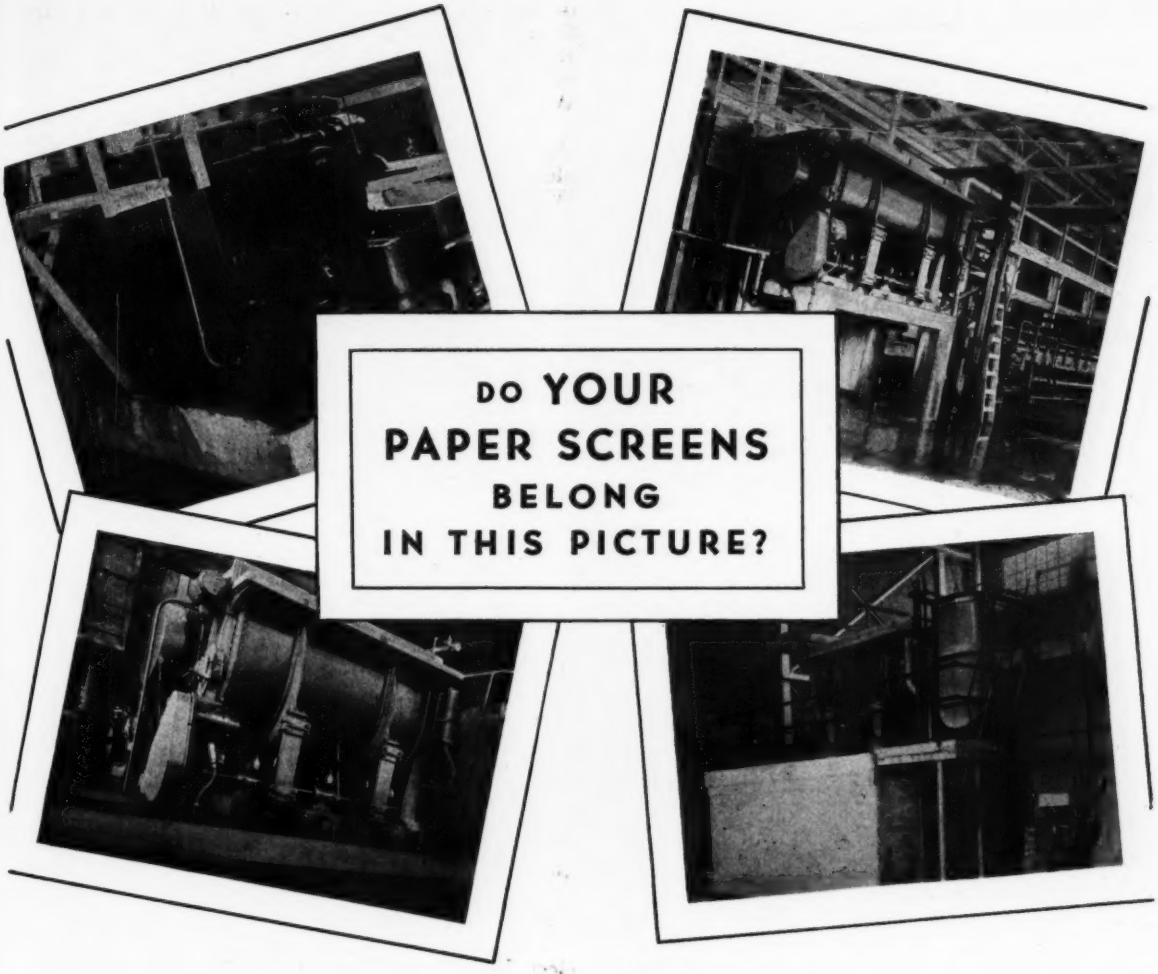
The meeting will open with a business session at 9:00 A.M. Reports will be presented by R. M. Hick, secretary-treasurer; Professor H. C. Belyea, chairman of the Committee on Licensing Foresters; T. F. Luther, Committee on Taxation and Insurance; W. E. Petty, Jr., Membership Committee report; W. E. Sanderson, Forest Policy and Legislation; Records Committee, Floyd E. Carlson.

The afternoon session starting at 2:00 P.M. will elect officers, Professor Belyea, chairman. The remainder of the afternoon program will be open to the public, the C.C.C. personnel and students of the College of Forestry. The following reports will be presented: C. E. Haischer, "Use of Deciduous Trees and Shrubs"; Professor N. C. Brown, "Utilization of Forest Products"; Professor R. T. King, "Wildlife"; J. C. Robert, "Program Committee".

The chairman of the banquet is A. S. Hopkins of the Conservation Department. Professor Kenneth G. Bartlett will take the diners "behind the scenes in radio broadcasting". Professor Bartlett is director of the Syracuse University Radio Workshop. Music by the Mount Olympus Trio.

Friday, at 9:00 A.M., W. E. Tinker, former assistant chief forester of the United States will speak on, "Private Forestry Practice".

At this point William G. Howard, director of lands and forests, New York State Conservation Department, will take up one of the most discussed subjects in forestry circles today, namely "Federal Regulation of Privately-Owned Timberlands". Dr. J. S. Illick, head of the Department of Forest Management, of the New York State College of Forestry, J. A. Cope, extension forester, Forestry Department, Cornell University and David B. Cook, New York State Conservation Department will also discuss this subject. Gurth Whipple, head of Extension at the College will report on resolutions.



DO YOUR
PAPER SCREENS
BELONG
IN THIS PICTURE?

Replacing old screens with big, modern Bird Screens like these will do more for your paper and your production than anything else you can do at anything like as low cost.

Let us give you the facts and figures.

BIRD MACHINE COMPANY
SOUTH WALPOLE · MASSACHUSETTS

C. K. Blandin Foundation Formed

There was filed last week in the office of the Secretary of State at St. Paul the articles of incorporation of the Charles K. Blandin Foundation.

This realizes, in part, the dreams and plans of C. K. Blandin to make a contribution to the welfare of the village of Grand Rapids, Minn., and Itasca county, a contribution which will be long sustained, substantial and permanent.

No doubt, every person cherishes the hope that the world may be better because he has lived in it. The new foundation is an expression of this hope by Charles K. Blandin.

In line with what has been done in many large cities, Mr. Blandin has caused to be formed a corporation. The management of this corporation will be entrusted to a group of individuals as trustees with full authority and discretion to utilize the funds of the corporation for such civic, religious, charitable, scientific, literary, educational and other purposes as will promote the well being of mankind.

The articles of incorporation provide that the board of trustees shall not be limited to utilizing the funds of the corporation for those things ordinarily conceived as "charitable", the relief of the poor or furnishing the necessities of life. They are authorized in their discretion to use funds for general and special education of children, medical and surgical care, recreation and recreational facilities, outings, the observation of Christmas and, as Mr. Blandin expresses it, "the spreading of the spirit of Christmas throughout the year." Funds of the corporation may be used for the development of music in the public schools and otherwise for the encouragement of the cultural background of the community and county. Young people from 14 to 20 years of age who show promise of special musical talent may be assisted in acquiring higher musical education.

In the articles of incorporation Mr. Blandin has wisely recognized the fact that experience has often demonstrated that the passage of time and changing conditions has often rendered unnecessary or undesirable the specific objects for which many charitable gifts have been made. If literal compliance with the terms of the corporation seems unwise, impractical or impossible, the expenditure of the funds of the corporation are to be left entirely in the judgment of the board of trustees.

Throughout Northeastern Minnesota Mr. Blandin is best known as the owner of the Blandin Paper Company. Throughout the state and nation he is best known as the former publisher and owner of the St. Paul Pioneer Press and Dispatch. He learned the printing business in Wisconsin, became the proprietor of weekly newspapers at Sanborn and Olivia in Minnesota, and was associated with the Minneapolis Tribune and later became business manager and publisher of the St. Paul papers.

Diesel Locomotion at Hammermill

The ease with which a modern diesel-electric locomotive can handle industrial switching is shown by a 65-ton unit in the plant of the Hammermill Paper Company at Erie, Pa. This internationally known industry is located on a tract of 211 acres fronting on Lake Erie, and maintains four large storage yards, with capacity for storing 100,000 cords of wood. The yards, with about seven miles of standard-gage track, were served for years by a steam locomotive. With recent increases in production, the steam locomotive was found inadequate for the service, and the diesel-electric locomotive was obtained.

The new locomotive delivers wood from the connecting railroads to the storage piles during the navigation season, and reclaims it as required by the mill throughout the year. Wood consumption is about 400 cords per 24-hour day. The locomotive also handles four to ten cars of coal daily, depending on the season, and many other carload shipments of raw material such as limestone, sulphur and other chemicals, and packing materials.

The diesel-electric locomotive, on duty 16 hours daily, is operated by one man, together with the ground crew. A reduction in fuel cost is expected since the engine may be shut down when not in active service, eliminating standby losses.

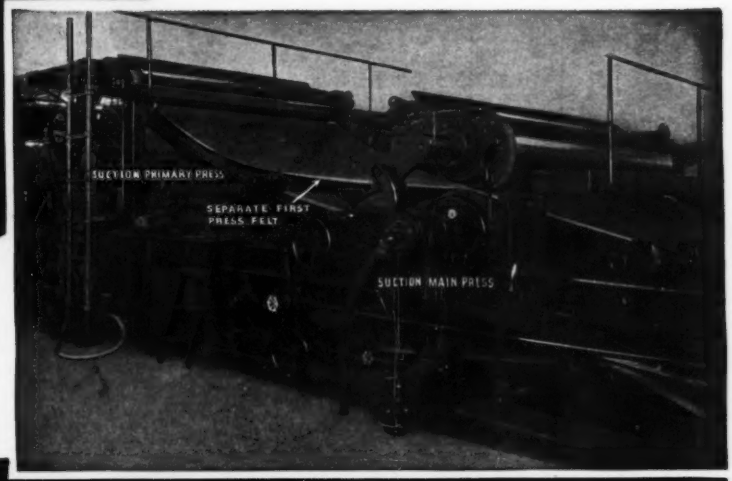
The 65-ton locomotive is the four axle type with two Cummins engines, with a total capacity of 350 hp. The engines are direct-connected to General Electric generators, and electric power under the direct control of the engineer is supplied to motors geared to each axle. Compressed air is provided for braking both the locomotive and the trailing cars, and auxiliary power is provided for the usual lights and accessories. The locomotive is one of a line of standard units in sizes from 20 to 80 tons built at the Erie Works of the General Electric Company.

G-E Diesel-Electric Switching Locomotive in Yard of Hammermill Paper Co.

Suctionize

YOUR BOARD MACHINE WITH Beloit SUCTION

DRUM PRESS *
PRIMARY PRESS
MAIN PRESS



Note the short top felt for suction drum press nip. All plain primaries have been removed.

Wet pickup felt returns after suction primary press. Suction first press is on separate felt.

1. Removes large quantity water without disturbing formation or finish.
2. Reduces crushing and checking.
3. Improves finish. Reduces felt marks.
4. Permits use of light weight short top felt. Lower felt cost.
5. Eliminates several nips. Improves test of board.
6. Permits more bulk if desired.
7. Increases test or permits cheaper furnish and maintain same test.
8. Suction main press more efficient on separate felt.

* Suction drum press is equivalent to suction drum and suction primary press.

BELOIT IRON WORKS PAPER MACH'Y BELOIT WIS.

THE BELOIT WAY IS THE MODERN WAY

BELOIT IRON WORKS, BELOIT, WIS.

TAPPI and Superintendents Meet

The fifth joint meeting of the Kalamazoo Valley Section of the Technical Association of the Pulp and Paper Industry and the Michigan Division of the Superintendents Association was an outstanding success with nearly four hundred in attendance at the Columbia Hotel, Kalamazoo, Mich. W. K. Kidder of the Bryant Paper Company, Chairman of the TAPPI Section presided as general chairman and L. W. Sutherland, President of the Sutherland Paper Company acted as toastmaster.

Brief remarks were made by the following: W. H. Swanson of the Kimberly-Clark Corporation and President of TAPPI commended the two organizations for their fine spirit of cooperation in holding such a meeting. R. A. Hayward of the Kalamazoo Vegetable Parchment Company and Vice President of TAPPI reported how enthusiastic Mike Redmond of the Kalamazoo Paper Company was in coinitiating this series of joint meetings which are primarily held to promote goodwill among the machine tenders, beatermen and other mill men. A. B. C. Drew, President of the Superintendents Association outlined the plans being made for the Poland Spring convention of the national Superintendents Association in June.

Uncle Jake Speaks

In introducing Uncle Jake Kindelberger, Chairman of the Board of the KVP Company, Mr. Sutherland pointed out that Uncle Jake was the only chief executive remaining of those with whom he was acquainted in the early days in the Kalamazoo Valley. Mr. Kindelberger pointed out the great progress that has been made in paper-making during the fifty-five years of his active participation in the industry—years that he would like to repeat and commended to the younger men present their wholehearted efforts in the advancement of the industry.

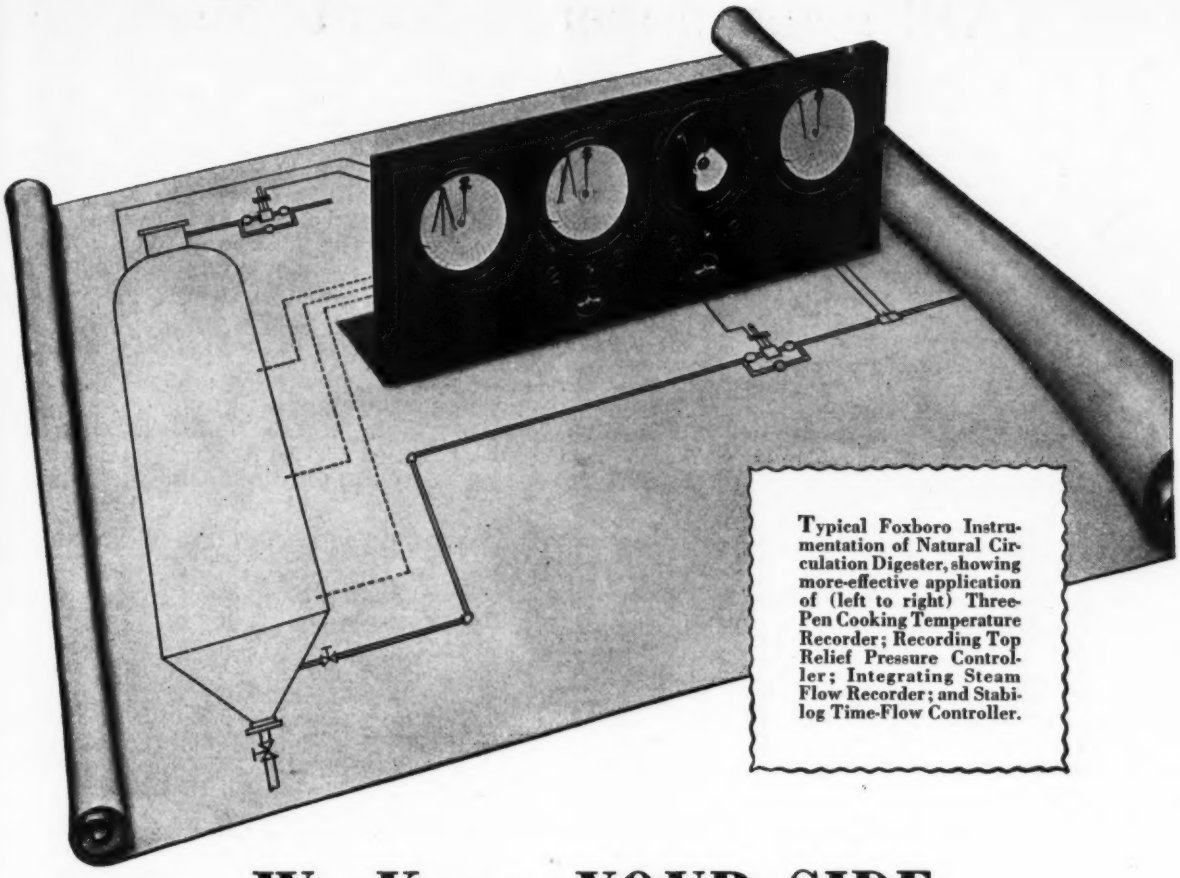
Otto Kress, Technical Director of the Institute of Paper Chemistry was introduced and given a hearty rising ovation. Dr. Kress spoke briefly on the value of cooperative research and indicated that the future progress of the industry depends on the cooperation and brains of technically trained men, progressive superintendents and enlightened management.

Other guests introduced included R. G. Macdonald, secretary-treasurer of the Technical Association, R. L. Eminger, S. G. Blankinship and Roy Barton, secretary, fourth and fifth vice presidents of the superintendents association, Arnold Weller, Chairman of the Michigan division of the superintendents association and Frank D. Libby and B. M. Thomas, executive committeemen of TAPPI.

The guest speaker was Dunlap Clark, president of the American National Bank of Kalamazoo who talked on "The Defense Program and Banking Cooperation". In this talk, Mr. Clark gave extensive statistical data showing the ability of the banking system to finance the expansion of manufactures in the United States Defense Program. There are unprecedented cash balances in the banks in excess of the amounts required therein by law. The banking industry is not only able but eager to do its part in getting the Country ready to meet such emergencies as may arise.

Those in Attendance

Among those present were: Percy Abbott, Kenneth Adams, James M. Alden, Jack Almack, M. J. Amber, C. D. Anderson, W. H. Astle, Ralph Atkins, B. Ault, C. L. Bachelder, W. R. Bailey, Lloyd F. Baker, Harold Ball, W. C. Barger, H. E. Barnes, James Barnhart, W. Barnhart, R. J. Barthold, P. W. Bartholomew, R. L. Barton, C. A. Batchell, L. Beach, Bernard Benson, Joseph Bercon, R. J. Beveridge, E. S. Bierema, Philip Bixby, John Blanchard, S. G. Blankinship, O. D. Blessing, Forrest Bloom, R. T. Bohs, Edward T. Bordner, Harry C. Bradford, C. A. Braginton, Roland Brehmer, D. Brittain, W. Brower, F. L. Brown, Lloyd Brown, W. K. Brown, Forrest Burchfield, Robert Buss, R. Byers, P. S. Cade, George Cain, W. E. Cardiff, J. F. Carrigan, G. V. Cathey, Fred L. Chappell, Jr., D. C. Clark, Ralph S. Clark, W. S. Clark, James B. C arke, Lester Clark, W. C. Clements, Harley Clinard, Chris Coertse, Thomas R. Colachicco, A. M. Cole, Everett M. Coleman, T. T. Collins, Kenneth Conrard, Charles Cook, M. H. Coombs, E. M. Cooney, John Cornell, W. F. Costello, S. V. Cottrell, N. J. Coure, Arthur Cozby, A. H. Cragg, P. J. Crescent, Albert G. Crock, W. E. Crotty, Robert Crowell, G. L. Culver, F. B. Curtenius, Charles Cushman, Harry Damm, Chauncy Davis, A. DeBoer, Paul de Guehery, Arthur DePew, J. E. Dermany, Harold DeWeerd, Harold F. Dewey, J. DeWolf, W. J. Dial, Jack Dickson, R. C. Dilley, C. L. Dillon, T. B. Doolittle, Loren E. Draper, A. B. C. Drew, E. A. Dunton, Fred Dykens, Homer Eaton, G. Edgrobner, Frank B. Eilers, Robert Elias, Harry Eliason, V. E. Eller, F. D. Elliott, J. J. Ely, Robert L. Eminger, C. D. Ender, D. Robert Erickson, O. Featland, F. Fessley, Ted Fishbeck, A. E. Fitzgerald, L. M. Fleming, Claude Fletcher, M. F. Flotow, M. S. Fogarty, F. R. Forrest, James A. Foxgrover, R. D. Freeman, H. C. French, A. E. Fuje, Charles Gardner, G. H. Gerphreide, P. H. Gideon, A. D. Gilchrist, J. W. Gilkey, Jack Gilman, Lester Gilmore, Paul Greenfield, L. L. Griffiths, Clarence Hageman, Herman Hageman, J. F. Halladay, James Hamel, F. R. Hamilton, W. H. Hamilton, C. F. Harper, Hal Hartman, John Hartman, W. F. Hathaway, Charles Hayes, Everett Hayes, Ralph Hayward, Howard Heath, J. A. Heenan, L. Hegedons, V. Heinmuller, Robert M. Heistand, G. E. Hendrick, Ted Henry, C. E. Henton, J. S. Hilliard, Fred Hodgemire, D. Hofacker, L. M. Holbeek, R. W. Holden, Hugo Hotz, D. A. Howard, Fred Hunt, R. H. Hurst, Glen T. Ingling, H. B. Johnston, J. Johnston, G. T. Jubb, Ray Keelan, M. I. Keirn, H. C. Kemerling, J. R. Keville, W. K. Kidder, Myron Kin, H. Kindig Earl Kindle, J. Kindleberger, W. A. Kirkpatrick, Joe Klein, J. O. Kline, A. L. Kloosterman, W. Kottman, Merle Kraus, Otto Kress, L. F. Kretchman, Robert E. Krudener, L. H. LaLiberte, A. W. Legge, John Leindecker, S. Levine, G. W. Liedholz, A. G. Lindner, H. S. Lippen, J. O. Logan, Jack Loomis, H. C. Lott, Joe Loughead, C. J. Ludrel, C. L. Ludwig, Clarence Luehn, Lloyd J. Lynd, Ray C. Lyons, Edward Macdonald, R. G. Macdonald, Archie Marhellie, G. M. Markle, Claude Mason, John Mauer, Charles F. McAleer, J. H. McClane, D. E. McDowell, C. McMillan, James F. McNutt, Harry Meech, R. A. Meeuneer, David Metzer, H. J. Metzer, Claude Meyers, Hugh Miller, John Miller, John S. Miller, J. A. Mills, Leon H. Mimms, Edward Minnard, Gleen Mitchell, D. Moffitt, Dwight L. Monaco, M. C. Mulder, S. H. Myers, Everett Nicholas, Max Nichols, N. J. Niks, John H. Noble, Ray Noble, Mr. Noble, Sr., H. L. Nourie,



Typical Foxboro Instrumentation of Natural Circulation Digester, showing more-effective application of (left to right) Three-Pen Cooking Temperature Recorder; Recording Top Relief Pressure Controller; Integrating Steam Flow Recorder; and Stabilog Time-Flow Controller.

We Know YOUR SIDE of Processes, Too!

It takes more than instruments alone to supply cost-cutting, quality-boosting measurement and control systems for pulp and paper mills. It takes experience, too . . . intimate knowledge of *your* problems, as well as instruments!

That is why so many modern mills select Foxboro for instrumentation jobs. Foxboro engineers are leaders in Application Engineering because of their previous experience as pulp and paper engineers. They know how to develop layouts specifically adapted to equipment . . . instrumentation that is often unprecedented in efficiency.

Take digester control, for example. Foxboro has instrumented the majority of digesters now under automatic control. The diagram above shows just one of numerous original Foxboro methods of stepping-up digester efficiency through better instrument application. In this instance, steam and sulphur consumption were decreased, long-fibre count increased from 68% to 80%, and both the speed and uniformity of cook were substantially improved.

Write for detailed information on Foxboro's improved methods of digester control or any other pulp or paper mill instrumentation. **The Foxboro Company, 114 Neponset Avenue, Foxboro, Mass., U. S. A.** Branch offices in principal cities of United States and Canada.

FOXBORO
REG. U. S. PAT. OFF.
Instrumentation

Leonard Nowell, Heinie Nundorf, Russell B. Nunemder, C. H. Olmstead, Lyle Olson, Tim O'Neil, W. Overbeck, Thomas Palmer, Jacob Parent, W. M. Parkes, C. R. Pasch, Frank Passage, Thomas W. Peck, J. W. Pendergast, A. Perlick, Kenzie Phillips, Duncan Poland, R. W. Pollys, Dick Potgiesser, H. G. Potts, W. Powers, Jr., Dan T. Quick, Albert C. Rabbers, Charles B. Rader, W. Race, Ralph Ralston, Ivan Randall, M. A. Ranger, J. P. Reardon, George Rice, A. William Riedel, Lester Robbins, M. J. Roberts, Gilbert Roblyer, M. J. Roe, W. A. Rogers, E. G. Roomsburg, E. M. Root, J. L. Rummel, Marion Ruppert, E. C. Rutz, Marshall H. Rutz, W. N. Sackett, Fred Scheid, L. J. Scheid, C. C. Schmid, Harry F. Schmitzer, Alan T. Sedgwick, Chris Sehres, F. K. Shankweiler, J. B. Shaughnessy, W. L. Shaw, M. O. Shea, H. Shenken, A. L. Sherwood, George Shimmers, Robert Short, Jim Shuster, Jack Simon, C. F. Sisson, Peter Sivork, Erwin A. Slesdet, P. C. Small, Albert Smith, Hugh C. Smith, H. F. Smith, L. E. Smith, Robert H. Smith, Scott Smith, C. F. Somerville, R. Sorlie, A. Southon, G. Southon, Lynn Spath, Harrison Starr, M. E. Stein, Robert B. Stewart, J. M. Stimpson, R. C. Stimpson, J. R. Stinson, W. J. Stinson, D. L. Stocker, D. E. Stowe, Floyd Stratton, H. E. Stratton, K. L. Stratton, Lewis Stuckum, Embly Sutherland, L. W. Sutherland, Glenn Sutton, Grant Swander, N. W. Swanson, W. H. Swanson, H. E. Sweetland, E. B. Taylor, W. S. Taylor, E. S. Thayer, B. M. Thomas, Floyd Thomas, W. R. Tobin, T. E. Tongerson, Glenn F. Touse, N. D. Travis, C. M. Treat, M. B. Turner, R. M. Upright, C. E. Van Buren, Neil Van de Mortel, John Vanderkolk, M. J. Vander Slik, G. Van Haften, R. V. Van Kirk, P. J. Van Norden, James R. Verdon, Henry W. Vrobel, Joe Waber, Robert Walker, J. M. Walsh, A. P. Wandtke, Arthur Weinland, Arnold Weller, W. Wessel, Clarence A. White, E. F. Whittington, J. Widmeyer, E. C. Wilber, M. R. Wilkins, Don M. Wilson, James A. Wise, W. F. Wolfe, Edmond Woodruff, A. E. Woollam, Lee Yeckley, and Charles Zurowski.

Ohio TAPPI and Superintendents Meet

About 175 members of the Ohio Section of the Technical Association of the Pulp and Paper Industry and the Miami Valley Division of the American Pulp and Paper Mill Superintendents Association met at the Manchester Hotel, Middletown, Ohio, on Saturday evening, January 25. R. H. G. Smith, chairman of the Miami Valley Division presided as chairman and Allen Hyer of the Black-Clawson Company acted as toastmaster.

Guests Present

Among those introduced were Earl Grant, president of the Crystal Tissue Company, Valentine Friedrich and William Beckett of the Beckett Paper Company, R. L. Eminger, secretary of the Superintendents Association, Harry Hadley and Harold Suhs of the Miami Valley Division, John Cornell of the Paper Mill, H. Harrison and Roy Zellers, past presidents of the superintendents association and R. G. Macdonald, secretary-treasurer of TAPPI.

A. B. C. Drew, president of the Superintendents association spoke on the need of the divisions to have better informational meeting programs to attract a larger membership.

John Burdsall, Chairman of the Ohio TAPPI thanked those present for their attendance and urged both superintendents and technically trained men to attend the future meetings of the Section.

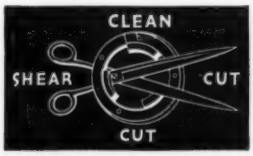
George H. Mead is Guest Speaker

The guest speaker was George H. Mead, president of the Mead Corporation, Chillicothe, Ohio, who commended the two organizations for arranging the joint meeting since both groups plus good management are necessary for the future advancement of the industry. He stressed the importance of all technical and operating executives to keep abreast of the news and social trends and to be sympathetic and patient toward those who have the destiny of this Country in their hands because of their places in the Government during the defense program period. Mr. Mead talked frankly about the affairs of the Country and asked that no report be given of his remarks.

Those in Attendance

Among those present were: T. Agronin, C. E. Ahlm, J. H. Allison, E. E. Allstatter, Don Appleton, J. A. Aull, B. M. Baxter, M. L. Parker, William Beckett, R. L. Belts, H. F. Bennett, Emil Besedick, O. R. Blessing, E. Bloedow, C. R. Boggs, Virgil Boswell, R. O. Brasent, Adam E. Bridge, J. B. Brock, Sam Broomhall, Jr., Duncan S. Brown, J. Buchanan, Howard Buechler, John Burdsall, W. L. Clark, James Combie, John Cornell, C. R. Crawford, William Crawford, Thage Dahlgren, Dan Dineen, John Ditmyer, O. G. Dreher, A. B. C. Drew, D. G. Driscoll, F. C. Duvall, Homer Eaton, Robert Eminger, Homer Feerer, Harry C. Fisher, John Fisher, L. Fleischer, Frank Forrest, A. H. Frazer, Howard Fricke, Val Friedrich, Jr., L. J. Gaede, C. Gardner, Leo Geiser, O. P. Gephart, E. Geran, A. G. Gibson, E. E. Grant, L. L. Griffiths, Harry E. Hadley, John Hain, L. H. Hall, J. A. Hamm, H. H. Harrison, A. R. Harvey, George H. Harvey, O. W. Hein, Ralph Helsinger, A. W. Henrick, E. J. Hiner, Eugene Hollis, P. E. Howard, Allan Hyer, Ken Jackson, P. J. Jerardi, E. J. Johnstone, Charles Jones, Jr., C. B. Jones, Sr., Earl C. Jones, J. M. Jones, M. W. Kane, R. P. Kast, E. J. Keezer, Albert Kind, Walter King, Arthur Kjellstrand, L. Kunkemoeller, R. C. Kutter, Kent Larick, Howard Larsen, Homer H. Latimer, T. H. Latimer, Harold Leighton, William Lickert, T. W. Lockard, L. J. Long, Edward Lum, R. G. Macdonald, W. W. Macklem, P. J. McDonald, E. L. McKasson, G. H. Mead, Ralph Z. Moore, P. A. Morrison, R. J. Murbach, C. R. Myers, L. M. Neumann, C. J. Nicol, Ben Osborne, C. Osborne, R. Patrick, Clarence L. Paxton, H. P. Petzoll, Charles Pflanzer, E. W. Phillips, W. J. Piggett, Charles K. Pigman, D. W. Pratt, W. G. Printz, A. E. Randall, William Reigers, W. W. Rettig, Douglas Robbins, Carl D. Roess, Charles H. Rybolt, W. Rhoades, H. O. Sebald, J. C. Scholler, P. Schreiber, A. J. Schroeder, J. Schuster, W. C. Shapleigh, Jr., K. M. Shiel, J. R. Simpson, W. C. Slattery, H. E. Slofman, A. J. Smith, R. H. G. Smith, W. E. Sooy, Claude A. Sorg, Robert K. Stevenson, O. E. Stewart, C. N. Stupp, G. H. Suhs, Paul G. Swayne, W. L. Taylor, L. V. Thiel, Edgar Turnbull, M. B. Turner, R. M. Upright, H. L. Vanderberg, H. Waffenschmidt, John Walck, E. V. White, W. A. White, Jr., Myron Wittmer, R. E. Woods, H. E. Wright, D. M. Yost, F. L. Sellers, and R. W. Zellers.

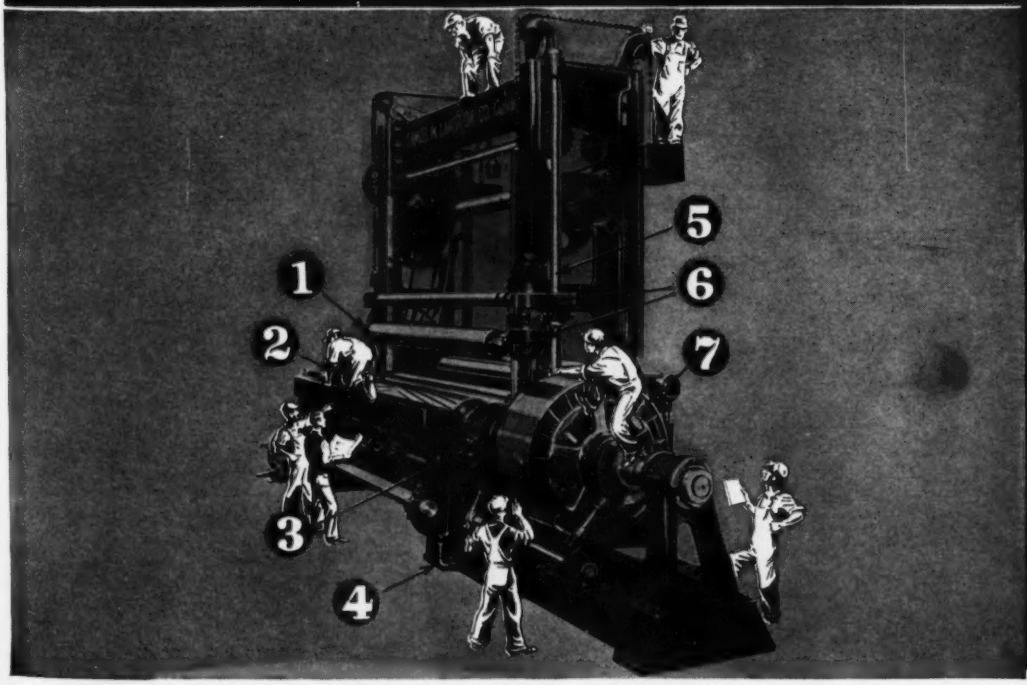
CHECK the design and construction of Langston Slitters and Roll Winders; you'll agree they have what it takes to stand up under heavy service. Some features include: **1:** pressure or rider roll mounted in heavy duty roller bearings; **2:** drums mounted in combination of SKF spherical and Hyatt roller bearings—ideal for heavy load and end thrust; **3:** nitrided steel gears provide glass-hard surface with tough center—unequalled for wear and strength; **4:** heavy bed-plate cross-ties side frames and carries drive; **5:** vertical shaft driving pressure roll has two dovetailed keys for sliding drive gear, and mounted in Timken bearings with provision for taking up end thrust; **6:** pressure roll driven through spiral bevel gears made from nitrided steel, running in oil . . . . entire drive fully enclosed; **7:** Vari-speed Clutch Pulley assures great flexibility in starting and operating. Any desirable drive available to suit individual plant.



Illustrated is Type DA Standard. Ask for Bulletin No. 132 describing other types and sizes for every job.

SAMUEL M. LANGSTON COMPANY, Camden, New Jersey

LANGSTON SLITTERS



FINANCIAL NEWS

New York Stock Exchange

High, Low and Last for Week Ending January 29, 1941

	High	Low	Last
A. P. W.	....	....	....
Armstrong Cork Co.	33	31¾	31½
Celotex Corp.	9¾	8⅞	8⅞
Celotex Corp., pf.	70	67½	67½
Certain-Teed Products Corp.	4⅝	4¼	4¼
Certain-Teed Products Corp., pf.	35⅞	33¾	33¾
Champion Paper & Fibre Co.	19¾	19¼	19⅜
Champion Paper & Fibre Co., pf.	105	105	105
Congoleum-Nairn Co.	17¼	16⅝	17⅛
Container Corp. of America	15⅝	15	15
Continental-Diamond Fibre Co.	....	....	....
Crown-Zellerbach Co.	15⅜	14¼	14⅝
Crown-Zellerbach Co., pf.	92	90½	90¾
Flintkote Co.	14⅜	13¾	13¾
Robert Gair	2⅛	2	2
Rober Gair, pf.	17½	16⅝	16⅞
International Paper & Power	14⅛	12¾	12¾
International Paper & Power, pf.	65	61½	61½
Johns-Manville Corp.	62	58¾	58¾
Johns-Manville Corp., pf.	127⅞	127	127
Kimberly-Clark Corp.	37½	37	37½
MacAndrews & Forbes	31¼	31¼	31¼
MacAndrews & Forbes, pf.	....	....	....
Masonite Corp.	28¼	28	28
Mead Corp.	8⅞	8⅝	8¾
Mead Corp., pf.	68	67¼	68
Paraffine Companies, Inc.	36⅞	35⅛	35⅛
Paraffine Companies, Inc., pf.	105¼	105	105
Rayonier, Inc.	15½	14¾	14¾
Rayonier, Inc., pf.	28½	27¾	28½
Ruberoid Co.	16⅝	16	16
Scott Paper Co.	36¼	34	36¼
Scott Paper Co., pf.	111	111	111
Sutherland Paper Co.	23	22	22
Union Bag & Paper Corp.	11⅞	11¼	11¼
United Paperboard Co.	....	....	....
U. S. Gypsum Co.	69¼	64	64
U. S. Gypsum Co., pf.	179	179	179

New York Curb Exchange

High, Low and Last for Week Ending January 29, 1941

	High	Low	Last
American Box Board Co.	....	....	....
Brown Co., pf.	16½	16	16
Great Northern Paper	42	42	42
Hummel-Ross Fibre Corp.	5⅞	5⅝	5¾
National Container Corp.	12½	12¼	12¼
St. Regis Paper Co.	2¼	2⅛	2⅛
St. Regis Paper Co., pf.	80	80	80
Taggart Corp.	3⅜	2⅞	3⅜

Brown Co. Has Good Year

BERLIN, N. H., January 27, 1941—As a result of increased business during 1940, Brown Company's payments for wages, pulp wood and taxes in the Berlin and Coos County area were increased by $2,500,000 over the total for 1939.

All residents of this northern-most section of New Hampshire are benefiting either directly or indirectly from this increased purchasing power made available during the year.

Brown Company is known as the foremost producer of purified cellulose in the country. Its products include high grade wood pulps, kraft and bleached kraft papers, Nibroc Aqualized towels, Onco insoles for all types of shoes, Bermico fibre conduit and chemicals.

The Brown Company reported for the year to November 30, 1940 operating profit of $3,093,125, contrasted to deficit of $1,238,872 in previous year. Net sales were $24,598,944, compared with $17,560,944 in 1939.

Sabin Robbins Pays $2

Directors of the Sabin Robbins Paper Company have declared a dividend of $2 a share on common stock, payable January 27 to stock holders of record January 15. A similar dividend was paid in Oct.

Whitaker Reelects Directors

Stockholders of the Whitaker Paper Company, meeting at home offices of the company at Sixth and Lock streets, Cincinnati, Ohio, re-elected the entire board of directors and in a meeting that followed the directors re-elected the 1940 officers. H. D. Whitaker of Cincinnati was re-elected president.

Following the board meeting, it was announced that earnings after taxes of 1940 were $245,905, compared with $203,142 in 1939. Earned per share common stock, after tax and preferred dividends in 1940, were $6.28, compared with $4,86 in 1939. Net current assets of 1940 were reported at $2,165,146, compared with $2,139,831.

No action was taken on dividends and the matter was deferred until the next meeting of the board, which will be about three months hence.

The board includes H. D. Whitaker, D. E. Barry, Charles W. Dupuis, H. F. Hewitt, H. C. Steward and J. W. Dillen Court, all of Cincinnati; B. M. Johnson, Pittsburgh; B. W. Gillespie, Baltimore, and J. H. Gilbert, New York City.

Barry, Johnson, Gillespie and Gilbert also were named vice presidents; Hewitt was elected secretary, and Steward, treasurer.

Abitibi Earns $547,263

The Abitibi Power and Paper Company, Ltd. (Canada),—for December, reports earnings, subject to audit and charges for depreciation and bond interest, were $547,263, against $630,584 in November and $387,406 in December, 1939. For the year to December 31, 1940, earnings totaled $7,804,732, against $3,450,594. Included in earnings for December, 1940, is $156,046 received as premium on United States exchange.

Marathon Votes Dividend

[FROM OUR REGULAR CORRESPONDENT]

ROTHSCHILD, Wis., January 27, 1941—A dividend of 25 cents per share, payable February 10 to stockholders of record at the close of business December 31, was voted by the directors of the Marathon Paper Mills Company at a meeting at the company's offices January 23.

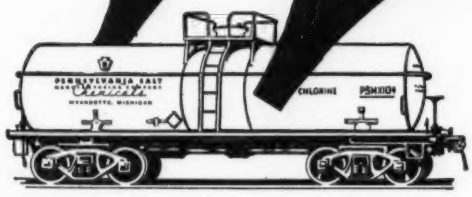
Puget Sound Nets $762,218

The Puget Sound Pulp and Timber Company for 1940: reports a preliminary net profit, of $762,218 after all charges, including amortization and excess profits taxes, compared with net profit in 1939 of $98,595.

Container Corp. Votes Dividend

The Container Corporation of America has voted a distribution of 25 cents a share on the common stock, payable March 3 to stockholders of record February 5. On November 20 last a disbursement of 75 cents was made.

It's no trifle: The DOUBLE CHECK on PENN SALT LIQUID CHLORINE



Our paper and pulp mill customers report:

smooth bleach plant operation, with freedom from delays due to defective containers.

The cleaning, repairing, inspecting, and testing of every tank car and every container of Penn Salt Liquid Chlorine every time they come back to our plant may seem to be trifles. But really these are the "tremendous trifles" which mean so much in the safety and convenience with which you handle our liquid chlorine. We take apart valves, check them, repair them, test them at 500 lb. per sq. in. pressure, then put in new packing. We clean all containers thoroughly, remove the moisture with bone dry air, and install new or reconditioned valves.

When single or multiple unit tank cars have been loaded, there are two separate checkups to make sure that the net weight of chlorine is correct. As a final precaution, each package is inspected twice at 24-hour intervals to insure safe delivery.

PENNSYLVANIA SALT MANUFACTURING COMPANY

Chemicals

LIQUID CHLORINE • SODA ASH • CAUSTIC SODA • ACID-PROOF CEMENTS • PENNPAINT • ALUM
SODIUM ALUMINATE • PERCHLORON • BLEACHING POWDER • ANHYDROUS AND AQUA AMMONIA

WRITE TODAY for FREE wall placard, "Handling Liquid Chlorine." Pennsylvania Salt Manufacturing Co., Widener Bldg., Philadelphia, Pa. — New York • Chicago • St. Louis • Pittsburgh • Tacoma • Wyandotte.

CONSTRUCTION NEWS

Detroit, Mich.—The Martin Brothers Box Company, 39 Blucher street, Toledo, Ohio, manufacturer of corrugated boxes and containers, has concluded arrangements for purchase of tract of about five acres of land fronting on line of Pennsylvania Railroad, between Montie road and Cicotte avenue, Lincoln Park, Wayne County, near Detroit, and will use as site for a proposed new plant. Plans are under way for main one-story structure, 120 x 800 feet, and auxiliary buildings, reported to cost over $175,000, with equipment. It is understood that work is scheduled to begin early in April.

Los Angeles, Cal.—The Pioneer-Flintkote Company, 2051 East 55th street, Vernon, Los Angeles, manufacturer of roofing papers, box board and kindred paper stocks, has approved plans for new addition to mill, consisting of a one-story, sawtooth-type building, 180 x 347 feet, for expansion in storage and distributing division. Cost is estimated at close to $100,000, with equipment. General erection contract has been let to the Austin Company, 777 East Washington boulevard, Los Angeles, and work is scheduled to be placed under way at once. Company is a division of the Flintkote Company, 30 Rockefeller Plaza, New York, N. Y.

Westfield, Mass.—The Stevens Paper Mills, Inc., Windsor, Conn., manufacturer of special tissue stocks, insulating papers, etc., has awarded contract to Standard Structural Steel Company, Hartford, Conn., for structural steel framing for new one-story addition to mill at Westfield, recently referred to in these columns, and will proceed with work on superstructure at early date. No estimate of cost has been announced.

Franklin, Ohio—The Cheney Pulp and Paper Company, manufacturer of pulp specialties, has approved plans for new addition to power house at mill, with installation of additional equipment for increased capacity. Work is scheduled to begin at once. An award for new 175-horsepower boiler unit and stoker has been made to the Combustion Engineering Company, Inc., 200 Madison avenue, New York, N. Y., and contract for construction will be let soon. Walter I. Barrows, Reibold Building, Dayton, Ohio, is consulting engineer.

New Haven, Conn.—The National Folding Box Company, James and Alton streets, manufacturer of folding and other paper boxes and containers, is having plans completed for new addition to plant, to occupy a site heretofore forming a courtyard between four buildings. It will be one-story, totaling about 20,000 square feet of floor space. It is reported to cost close to $50,000, with equipment. Fletcher-Thompson, Inc., 1337 Fairfield avenue, Bridgeport, Conn., is architect and engineer.

Rhinelander, Wis.—The Rhinelander Paper Company, manufacturer of glassine, greaseproof and other processed paper stocks, has work under way on new addition to mill, about 102 x 450 feet, for which general contract was let recently to the C. R. Meyer Sons Company, 50 State street, Oshkosh, Wis. It will be one-story, brick and glass block, and will be used for expansion in beater department, machine room and finishing division. Work also is progressing on a smaller adjoining building, to be equipped as a beater unit. As recently noted in these columns, the expansion program will include an addition to boiler house at mill, 27 x 64 feet, and for which superstructure is now under way. Award for this work has been made to the same contractor. Entire project is reported to cost in excess of $250,000, including equipment.

Grand Rapids, Mich.—The Fisher-Drummond Wallpaper Company, 237-39 Pearl street, N. W., wallpaper stocks, has awarded general contract to George Datema & Sons, Grand Rapids, for remodeling and improving building at location noted, for expansion in storage and distribution facilities. Work will begin at once.

Cleveland, Ohio—The Hinde & Dauch Paper Company, Sandusky, Ohio, manufacturer of corrugated boxes and containers, has revised plans under way for proposed addition to factory branch, storage and distributing plant at 2110 West 110th street, Cleveland, previously referred in these columns. It will be brick and steel type, one or two-story, about 150 x 300 ft., and will provide for large increase in capacity. No estimate of cost has been announced. H. C. Robinson is manager of Cleveland branch.

New Orleans, La.—The Chase Bag Company, Army Supply Base, manufacturer of paper bags and containers, etc., has leased a one-story building, about 160 x 500 feet, to be erected by the Board of Commissioners of the Port of New Orleans, on site on the Turning Basin in the Inner Harbor Navigation Canal, providing complete waterway facilities. Company will take over as soon as completed, arranging for large increase in present capacity, including extensive production division, with part of structure given over to storage and distributing department. An award for building erection has been made to the Pittman Brothers Construction Company, 2800 North Galvez street, at price of $221,434. Main offices of Chase company are at 309 West Jackson boulevard, Chicago, Ill.

Sacramento, Cal.—The Crown Zellerbach Corporation, 343 Sansome street, San Francisco, Cal., manufacturer of paper products of various kinds, has completed plans for new one-story addition to factory branch, storage and distributing plant at Sacramento. General contract for erection has been let to C. Vanina & Son, 2022 M street, Sacramento, and erection is scheduled to be placed under way at once. Cost is reported over $50,000, including equipment.

Bogalusa, La.—The Gaylord Container Corporation, Pulp and Paper Division, 2820 South Eleventh street, St. Louis, Mo., manufacturer of kraft wrapping papers, corrugating stocks, etc., has

awarded contract to the Ingalls Iron Works Company, Birmingham, Ala., for quantity of structural steel, to be used for addition to digester room at mill at Bogalusa, forming part of large expansion program, previously referred to in these pages. Work on superstructure will be placed under way at early date. Cost of new unit is reported over $100,000, with equipment. Entire project will represent an investment of about $6,000,000, including buildings and equipment.

Rio De Janeiro, Brazil—Klabin Industries of Parana, Inc., Rio de Janeiro, and Curitiba, State of Parana, has plans maturing for new pulp and paper mill on site in Parana State, for the production of newsprint and other paper goods. Plant will comprise several large production units, with storage and distributing buildings, power house, machine shop and miscellaneous structures, and is reported to cost close to $4,500,000, including machinery. It is expected to secure equipment requirements in the United States. Company also has a large tract of pine forests in Parana and will develop for pulp wood supply, with construction of sawmills and other lumbering facilities. Work on project will be placed under way at early date. Company has arranged for loan of $3,500,000 with the Bank of Brazil, Rio de Janeiro, which will be interested in the project.

I. P. Benefit Association Meets

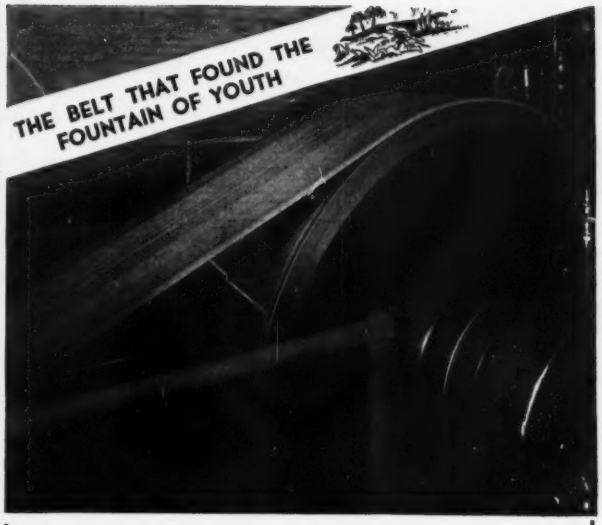
[FROM OUR REGULAR CORRESPONDENT]

FORT EDWARD, N. Y., January 25, 1941—The annual meeting of the Employes' Mutual Benefit Association of the International Paper Company was held here last week with about 300 members in attendance. The report of the treasurer showed the local chapter to be in excellent condition and revealed that the members had received much benefit from the organization during the last year. Officers chosen for the year were as follows: William Davidson, president; Albert A. Viele, first vice president; Peter McCurry, second vice president; Albert P. DelSignore, secretary; Myrtle Lyons, treasurer, and Dymick Hinckley, auditor. A representative of the local district of the social security stated that about 500 persons are receiving monthly payments as the result of their contribution to the fund while employed before reaching the age of 65 years. He told the group that information concerning their social security standing and the amount on hand to their credit could be determined by his office. Many interesting and informative facts about social security were given during his address.

W. W. Pulver Transferred to Glens Falls

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., January 25, 1941 — Announcement is made here that Walter W. Pulver, Jr., has been transferred from the Philadelphia branch of the International Tissue Corporation to this city. The local concern was formerly known as the Veldown Company. He will represent the concern in this territory, succeeding Lionel Beakbane. The latter has taken a responsible position with another concern. In another sales department change, John A. Murray has resigned a representative of the company on the Pacific Coast.



THIS CINCINNATI TRANSMISSION BELT *has lived the life of five ordinary belts*

Back in 1936, a 20" x 8 ply Cincinnati Endless Cord Belt took over a killing drive in a Michigan paper mill. Leather and rubber friction belts previously used had lasted only 10 to 12 months.

No one expected marked improvement over previous performance, but, when Cincinnati Belt service stretched to twice that of previous belts... then THREE times... FOUR times... FIVE times... they knew they had a belt that was not ordinary in any sense of the word.

Giving the service of five belts on this drive is performance worth remembering when you buy transmission belts for YOUR PLANT. Get complete information on Cincinnati Belts NOW.

THE CINCINNATI RUBBER MFG. CO.
Cincinnati, Ohio

CINCINNATI
TRANSMISSION · CONVEYOR BELTS
HOSE · RUBBER COVERED ROLLS

IMPORTANT

Get Copy of New, Free Map Showing Valuable Information on . . . . . .

TIMBER SUPPLY

. . . in the Seaboard Southeast

Up-to-the-minute Government data shows that the Seaboard Southeast possesses an abundance of timber for all existing wood-using industries and for additional pulp mills which are expected to locate in this area.

We have just prepared a timber resources map of the Southeast, based on this data, with detailed figures on existing timber supply, annual growth, drain, net increment and other important features. The map shows several locations as offering outstanding opportunities for the establishment of additional pulp mills, and is of inestimable value to concerns interested in considering the South as a future base for pulp supply.

To such companies or individuals a copy of the map will be mailed free of cost on request.

Warren T. White, General Industrial Agent, Seaboard Air Line Railway, Norfolk, Virginia

INDUSTRIAL DEPARTMENT

SEABOARD

AIR LINE RAILWAY

Cantine Announces Awards

The Martin Cantine Company, Saugerties, N. Y. has announced the winners in the company's annual contest for outstanding skill in the production of printing and lithography in 1940. The thirty-eight winners and their productions on Cantine's coated papers are as follows:

Ad Reprint—"This is no Fish Story". Produced for P. Lorillard Company by Intaglio Service Corporation, both of New York City. Printed on Cantine's *Velvetone*.

Annual Report—"Report to Employees and Managers". Printed by The Baker Manufacturing Company, Inc., of New Bedford, Mass., for the Berkshire Fine Spinning Associates, Inc., of Providence, R. I., on *Canfold*.

Booklet—"Wright Cyclone 14". Produced for the Wright Aeronautical Corp. of Paterson, N. J., by Collins-Doan Company of Jersey City, N. J. Printed on *M-C Folding*.

Broadside—"Display Cases and Coolers". Produced by Mullan Corp. of Philadelphia for Bally Case & Cooler Co. of Bally, Pa., on Cantine's *Zena Offset*.

Bulletin—"Performance". Printed by the Powgen Press for National Mineral Wool Assoc., both of New York City. On *Catskill*.

Calendar—"Happy Children". Created by Messenger National Advertising Agency of Syracuse and Elmira, for the Thatcher Manufacturing Company of Elmira, New York, and printed by the Baumler Printing Service of Syracuse. On Cantine's *Zena*.

Catalog—"Residential Lighting". Prepared by Milton H. Kreines and printed by the Edward J. Kann Company for H. A. Framburg & Co. of Chicago, Illinois. Printed on *Canfold* cover and *Ashokan* text.

Cover—For The Depictor. Printed for and by Edward Stern & Co., Inc., Philadelphia, Pa., on Cantine's *Canfold* Cover.

Display—"Season's Greetings". Produced by the Plampin Litho Co., Inc., of New York City for Schenley Distillers Corp. of the same city. On Cantine's *Litho* Coated.

Envelope Enclosure—"Happy Monday". Printed for the General Electric Company by The Maqua Company, Inc., both of Schenectady, New York. On *Catskill*.

Folder—An Invitation. Printed by the Smith & Welsh Press of Boston, Mass., for Black Point Inn, Prouts Neck, Maine. Printed on Cantine's *Duo-Bond*.

House Organ—"Loyalty—July, 1940". Printed for the Fireman's Insurance Company, Newark, N. J., in their own printing plant. On *Zena* text with *Canfold* cover.

Label—"Hickok". Produced for the Hickok Manufacturing Company of Rochester, N. Y., by the Syracuse Lithographing Company, Inc., Syracuse, N. Y. Printed on *Catskill Litho*.

Magazine — "Current Photograph — December, 1940". Printed by Williams & Marcus Company of Philadelphia for Current Photography of the same city, on Cantine's *Catskill* text with *M-C Folding* cover.

Mailing Piece—"A Gifted Idea". Produced for Lane Bryant, Inc., New York City, by the Leebo Printing Co. of New York City. Printed on *Catskill*.

Program—"Annual Review & Exhibition Drill". Printed for Christian Brothers' Academy by The Argus Company, Inc., both of Albany, New York. On Cantine's *Catskill*.

Prospectus—Printed for Dean Academy of Franklin, Mass., by The Best Printers of Boston. Printed on *Zena* text with *Canfold* cover.

School Annual—"Gul for 1940". Produced by The McClelland Press, Williamstown, Mass., for Williams College of the same city, on *Ashokan*.

School Magazine—"Unquity Echo—Anniversary Issue." Printed for Milton High School of Milton, Mass., by the Pine Press of Dorchester, Mass. On Cantine's *Zena*.

Annual Salesmen's Luncheon

The Annual Luncheon of the Salesmen's Association of the Paper Industry will be held this year at the Waldorf-Astoria on Tuesday, February 18. The luncheon committee anticipates a record attendance and have arranged with the hotel to seat up to 1,200 people in the grand ballroom.

Members may bring as many guests as they like. It is especially requested that the executives of paper companies be present, where they find all their friends in the paper industry in attendance.

Sir Willmott Lewis, Washington Representative of the London Times for the past twenty years will deliver the main address. His subject will be "The Social Implications of the World Conflict."

There will also be messages of welcome and interest from one or more leaders of the paper industry, and singing led by the association's own song birds.

All those planning to attend this annual luncheon are urged to send in their reservations for tickets immediately to Dr. E. O. Merchant, Room 3816, 122 East 42nd street, New York.

It is planned to have the programme completed by 2:30 P.M., and all are requested to be on hand with their guests promptly at 12:30.

N. E. TAPPI Panel Discussion Planned

The New England Section of the Technical Association of the Pulp and Paper Industry will meet at the Roger Smith Hotel, Holyoke, Mass., on Friday, March 15. This meeting will be an open forum conducted along the lines of the "Information Please" quiz programs currently popular on the radio. A group of qualified TAPPI members will serve as a panel to respond to questions asked.

To assist the committee in organizing the panel, members are requested to send their questions to Miss Helen U. Kiely, secretary of the section at the American Writing Paper Company. The nature of the questions will determine the personnel of the panel. The source of the question will not be made public, and members desiring to do so may send in their questions anonymously.

Hoskin Paper Co. Elects Officers

MARINETTA, Wis., January 27, 1941—R. W. Hoskin was re-elected president of the Hoskin Paper company in Menominee at the annual meeting of stockholders. Richard Hoskin is vice president and general manager and V. C. Vary is secretary and treasurer.

Claude Johnson is a new member of the board of directors along with the officers and John and Alfred Henes, David G. Bothwell and G. A. Blesch.

UNITED PIGMENTS

Pure Titanium Dioxide

UNITANE-O.

A brilliantly WHITE, pure, fine titanium dioxide possessing excellent . . .

- **OPACITY**
- **BRIGHTNESS**
- **DISPERSION**

Suitable for ALL types of paper ranging from thin printing papers and waxing tissues to coated book and magazine stocks.

UNITANE O—110 was especially developed for paper pigmentation. Its excellent dispersion in water promotes good retention and excellent sheet formation. As a component of the beater furnish, it produces whiter sheets of great brilliance, and superior printing qualities.

SAMPLES of UNITANE O-110 will be sent promptly upon request.

UNITED

UNITED COLOR AND PIGMENT CO.

DIVISION OF INTERCHEMICAL CORPORATION

NEWARK, NEW JERSEY

SALES OFFICES IN PRINCIPAL CITIES

PAPER TRADE JOURNAL
Title Reg. U. S. Pat. Off.
Henry J. Berger
EDITOR

Vol. 112 January 30, 1941 No. 5

COMING EVENTS IN PAPER INDUSTRY

AMERICAN PAPER AND PULP ASSOCIATION, Sixty-fourth Annual Convention and meeting, Waldorf-Astoria Hotel, New York, February 17-21.

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY, Convention, Roosevelt Hotel, New York, February 17-20.

SALESMEN'S ASSOCIATION OF THE PAPER INDUSTRY, Annual Meeting and Luncheon, Waldorf-Astoria Hotel, New York, Tuesday, February 18.

NATIONAL PAPER TRADE ASSOCIATION OF THE UNITED STATES, Convention, Waldorf-Astoria Hotel, New York, February 17-20.

THE NEW YORK ASSOCIATION OF DEALERS IN PAPER MILLS' SUPPLIES, Annual Banquet, Commodore Hotel, New York, Tuesday, February 18.

NEW ENGLAND SECTION. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Roger Smith Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

AMERICAN PULP AND PAPER MILL SUPERINTENDENTS ASSOCIATION, Twenty-second Annual Convention, Poland Spring House, Poland Spring, Me., June 17-19.

NEWSPRINT

The bibliography of the paper industry is very extensive. Much has been written on newsprint production but texts covering the study of the economic elements have, for some inexplicable reason, been neglected. To meet this lack of standard reference texts on these aspects of newsprint, a new book has just been published by the Harvard University Press of Cambridge, Mass. The title is "The Newsprint Paper Industry". The author is John A. Guthrie, assistant professor of economics of the State College of Washington.

In his introduction, Professor Guthrie points out that "despite the size of the newsprint paper industry on the continent of North America, especially in Canada, where newsprint has become one of the most important of the export commodities of the Dominion, no systematic attempt has ever been made to study the economics of the industry as a whole. The most comprehensive studies have been made by the United States Tariff Commission and the United States Federal Trade Commission. These, unfortunately, deal almost entirely with the organization of newsprint production in the United States. The importance of Canada as the source of the product, however and the existence of intimate financial relations between mill operators in Canada and publishers or owners in the United States makes necessary a consideration of the industry in the wider economic unit—the North American Continent".

This comprehensive study of newsprint as an industry is grouped into two parts. In the first part Professor Guthrie presents the economic background. The initial chapter considers the consumption of newsprint paper and the author explains that, "as would be expected, consumption of newsprint is not exactly proportional to population. The five states of New York, Pennsylvania, Illinois, Massachusetts, and California with only 32 per cent of the population consume 57 per cent of paper used in the United States. Per capita consumption increases with the size of the city. In the southern states, where there are relatively few large cities, and where illiteracy is proportionately higher, per capita consumption is smaller than in the North. The nine states of Mississippi, Louisiana, Texas, North Carolina, South Carolina, Alabama, Georgia, Florida, and Arkansas, with 19.3 per cent of the population, consume only 6.2 per cent of the total newsprint.

In discussing in chapter 6 the movement of newsprint into consumption, Professor Guthrie says in part: "Newsprint is predominantly a rail-transported commodity. Although every effort is made to employ water transportation, the railroads still carry the largest proportion on this continent. In 1935, of the total amount of 3,285,000 tons of newsprint going to all destinations in the United States, 2,148,000 tons or 65.4 per cent was carried by rail; 1,043,000 tons or 31.8 per cent by water; 2.4 per cent by rail and water; and .05 per cent by truck. Even if account is taken of the 735,000 tons shipped from Canadian, American, and Newfoundland mills to overseas destinations, the railroads still carry more paper than any other transportation agency."

In his study of price determination and price policy, the author says in conclusion in Chapter 8: "We may therefore summarize our chapter on price determination and price policy in the following sentences. In the newsprint industry, the normal price-making process is one of bargaining between groups rather than between individuals. Price leadership by the strongest operators has become an accepted policy. The inherent nature of the industry makes this practice almost a necessity. But the existence of balanced bargaining between equally strong consumers and strong producers has resulted in not more than normal competitive profits having been made in newsprint. Except in the earlier years of the pre-depression period, the prevailing price has rarely been much above total costs, and frequently has been far below."

Part 2 of Professor Guthrie's study is devoted to interregional competition and discusses the cost of pulpwood, wages, transportation and total costs. In comment on the rising cost of pulpwood indicated in a chart, the author says in part: "Costs, it is seen, varied considerably among mills, and from year to year: they ranged from $8.80 to $17.60 a cord in

1929, from $6 to $11.25 in 1933, and from $7.05 to $13.50 in 1938. . . . The pacific coast mills have enjoyed the lowest pulpwood costs in the past; they have had an average advantage during the years 1919 to 1938 of $2 per cord over Quebec. This advantage, however, which varied widely has in recent years diminished considerably. . . . In Ontario, pulpwood prices have sometimes been lower and sometimes higher than in Quebec. The difference, however, has always been slight. New England costs have remained persistently above the Quebec level; the average spread between 1922 and 1938 was $2.01 in favor of the latter area. But this difference was reduced to 90 cents and $1.35 a cord in 1933 and 1934, and again to 73 cents a cord in 1938. From 1928 to 1938 wood costs averaged $3.58 a cord higher in the Lake states than in Quebec, and in New York $4.77 a cord higher. . . . A comparison by regions of the total costs of producing newsprint in the year 1928 revealed that these costs were lowest on the Pacific coast, second lowest in Quebec, third in Ontario, fourth in the Lake states, and highest in Maine-New York."

In his summary and conclusion of his study of newsprint, Professor Guthrie comments on potential producing areas, in part as follows: "An examination of the possibilities of newsprint industries in Alaska and the southern states revealed the fact that neither area is likely to become a severe competitor of the present manufacturing areas. Alaska was shown to be well provided with cheap wood and power, but the distance from any large consuming center, the difficulty of gaining a foothold in markets already over-supplied, and the existence of excess capacity in the industry will prevent it from becoming an important producing area, at least for some time. The southern states will be prevented from competing seriously with the northern producing areas, partly by technical difficulties, but more especially by economic considerations. Southern mills will likely produce newsprint for the southern states, but they will encounter prohibitive competition if they make any attempt to invade the northern market."

Government Paper Awards

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 29, 1941—Dominion Paper Company has been awarded the contract for furnishing the Government Printing Office 19,800 pounds (150,000 sheets) of 50% rag, 26 x 34 white natural tint passport paper at 12.47 cents, bids for which were received on January 6.

Mathers-Lamm Paper Company will furnish 820 sheets of 22 x 28 buff railroad board at $69.50 per M sheets. Mudge Paper Company will furnish 25,000 sheets (3275 pounds) of 32 x 43 ivory tint book paper at 6.02 cents. Bids for these items were received on January 3.

R. P. Andrews Paper Company will furnish 103,350 pounds of No. 1 binders board at 3.325 cents.

Production Ratio Report

These statistics are based upon paper production reports to the American Paper and Pulp Association.

COMPARATIVE MONTHLY SUMMARIES[1]

Mos.	1941	1940	1939	1938	1937	1936	1935	1934
Jan.	.....	90.2%	77.5%	63.9%	90.3%	76.1%	65.8%	.....
Feb.	.....	86.2%	81.7%	68.7%	90.1%	77.9%	70.0%	.....
Mar.	.....	83.9%	84.0%	69.6%	90.3%	76.0%	70.5%	.....
Apr.	.....	86.3%	82.9%	68.3%	92.1%	82.3%	70.0%	.....
May	.....	91.8%	80.2%	69.0%	90.6%	81.6%	69.4%	.....
June	.....	93.8%	79.7%	66.0%	87.3%	80.7%	72.3%	.....
July	.....	87.1%	75.2%	72.0%	81.8%	77.3%	64.9%	.....
Aug.	.....	87.2%	82.9%	77.2%	82.9%	81.5%	70.9%	.....
Sept.	.....	83.2%	88.7%	76.3%	78.6%	80.5%	71.9%	58.2%
Oct.	.....	88.0%	96.6%	82.5%	73.5%	87.6%	75.6%	64.7%
Nov.	.....	86.9%	97.2%	79.6%	61.9%	88.0%	75.3%	61.7%
Dec.	.....	83.3%	91.1%	74.4%	54.5%	85.9%	71.2%	59.6%
Year Avg.	.....	87.5%	84.9%	72.3%	80.6%	81.3%	70.5%	.....
First 3 weeks	88.1%	90.3%	76.1%	62.5%	90.4%	75.5%	64.1%	.....

COMPARATIVE WEEKLY SUMMARIES[1]

CURRENT WEEKS		CORRESPONDING WEEKS	
December 14, 1940.....	90.8%		
December 21, 1940.....	91.1%	December 16, 1939.....	97.7%
December 28, 1940 (Holiday Week).....	64.3%	December 23, 1939..... December 30, 1939.....	93.9% 76.2%
January 4, 1941.....	85.0%	January 6, 1940.....	88.0%
January 11, 1941.....	89.3%	January 13, 1940.....	92.7%
*January 18, 1941.....	89.3%	January 20, 1940.....	90.1%

The following statistics show the number of mills reporting by ratio groups:

	Number of Mills Reporting—Current Weeks					
Ratio Limits	Dec. 14, 1940	Dec. 21, 1940	Dec. 28, 1940	Jan. 4, 1941	Jan. 11, 1941	Jan. 18, 1941
0% to 50%.....	52	45	108	78	48	38
51% to 100%.....	244	247	181	208	231	177
Total Mills Reporting..	296	292	289	286	279	215

PAPERBOARD OPERATING RATIOS

Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1936	62%	67%	67%	70%	69%	70%	69%
1937	80%	86%	86%	88%	85%	77%	66%
1938	54%	60%	61%	57%	58%	56%	57%
1939	60%	67%	71%	69%	64%	67%	63%
1940	71%	70%	69%	70%	76%	79%	72%

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1936	75%	78%	82%	80%	74%	72%
1937	74%	69%	65%	55%	45%	73%
1938	66%	66%	70%	65%	59%	61%
1939	72%	74%	84%	81%	71%	70%
1940	74%	72%	79%	77%	71%	73%

Week end. Dec. 14, 1940—79%
Week end. Dec. 21, 1940—80%
Week end. Dec. 28, 1940—48%
Week end. Jan. 4, 1941—59%
Week end. Jan. 11, 1941—77%
Week end. Jan. 18, 1941—78%

[1] Production-capacity ratios are based upon six-day capacity ratings which are adjusted periodically to correspond with the ratings reported by individual companies. Ratios are subject to revision until all reports are received.
* Preliminary figure.

To Hold Waste Material Exhibit

At a recent meeting of the convention committee for the twenty-eighth annual convention of the National Association of Waste Material Dealers, Inc., it was decided, among other things, to put on an equipment and industry exhibit at the time of the association's Convention, March 17 to 19 inclusive.

The convention is to be held at the Hotel Sherman, Chicago, and the above mentioned exhibit is only one of the special features which is expected to make the forthcoming convention the most interesting and best attended convention ever held.

For space and other particulars in reference to the equipment and industry exhibit those interested should communicate either with George Birkenstein, chairman of the convention committee, 332 S. Michigan Boulevard, Chicago, or the National Association of Waste Material Dealers, Inc., Times Building, New York.

They Started Something!

PASTEUR'S contributions to the cure and prevention of disease are familiar to everyone. He has given his name to inoculation treatments for the prevention of hydrophobia; to a process for destroying harmful bacteria in milk. But the work of Pasteur had even more far-reaching effects, for his experiments helped to lay the foundations of the entire science of bacteriology. His investigations of micro-organisms and the part they play in fermentation contributed to technical progress in many industries. New weapons against disease-causing bacteria, wider knowledge of the beneficial types that are essential to the successful functioning of many industrial processes—both resulted from the work of Pasteur.

So, too, when EBG engineers first made Liquid Chlorine commercially available in America, their achievement was destined to have profound effects both in the preservation of health and in industrial progress. Communities throughout the nation quickly recognized the value of EBG Liquid Chlorine as an effective means for safeguarding the purity of drinking water supplies—and today EBG Liquid Chlorine is still further extending its usefulness in the protection of health through its application in the field of sewage sterilization.

The first cylinder of Liquid Chlorine made by EBG in 1909.

Industry also profited by the introduction of EBG Liquid Chlorine—the manufacturers of paper and textiles found it an effective and economical bleaching agent. EBG engineers, pioneers in the production of Liquid Chlorine, have *extra* years of experience in its manufacture and servicing, experience that works for *you* when you specify EBG Liquid Chlorine.

ELECTRO BLEACHING GAS COMPANY
Main Office: 60 East 42nd Street, New York, N.Y.
Plant: Niagara Falls, N.Y.

EBG Liquid Chlorine
FIRST IN THE COUNTRY

Section of the
Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald. Secretary

TAPPI Microscopy Committee Report, 1940*

By Fred W. Bentzen [1]

This report, of the Microscopy Committee of the Technical Association of the Pulp and Paper Industry (TAPPI), is an enumeration of the different phases of microscopy as applied to the pulp and paper industry. The report contains an analysis of answers to a questionnaire on microscopy sent out to a large number of pulp and paper laboratories. In addition, the committee has presented to the TAPPI Committee on Testing a proposed revision and simplification of TAPPI Standard T 401 m, and has made a survey of the literature published during 1940 on microscopy as applied to the pulp and paper laboratories.

The committee believes that it must keep the TAPPI Standard T 401 m up to the demand caused by new pulps and changing methods in their production and must also investigate a much larger field, both for the purpose of standardization and being able to compare and evaluate the results of new methods of study. For example:

1. Stain reactions in relation to fading of papers and pulps caused by exposure to light and heat.
2. Microscopic determination of the relative degree of cooking and purification of pulp fibers.
3. Stains for the identification of sizing and coating materials.
4. Identification of pigments and fillers by methods of chemical microscopy.
5. Standard methods for speck counts and speck analysis.
6. Fiber dimensions and their correlation with other factors evaluating pulps and paper furnishes.
7. Standardization of methods for comparing fiber dimensions, fibrillation, and hydration to evaluate paper furnishes and beater efficiencies.
8. Microscopic determination of particle size when this is of advantage over other methods.
9. Surface texture of papers and its relation to typing and printing.
10. Standardization of procedures for certain common forms of photomicrography.
11. Attempting to determine what should be the minimum standard microscopic equipment for the average pulp and paper mill.
12. Investigation of the numerous formulas and methods cluttering up the literature to determine what is of value and what is not.

The determination of the relative importance of each one of these and other problems in pulp and paper microscopy cannot be done before the committee knows to what extent microscopy is used by the different mills, the general background, training, and experience of those doing the work, and the type of microscopic equipment available in the average mill, therefore a questionnaire of thirteen questions covering uses and needs of microscopy in the pulp and paper industry was prepared and mailed by the Technical Association of the Pulp and Paper Industry to one hundred selected pulp and paper mills.

The sixty-one mills who answered the questionnaire form a good representative cross section of the industry, having an average daily tonnage of approximately 10,000 tons of papers of all sorts and 7,150 tons of pulp. The types of mills which did not answer the questionnaire could not be determined, because their names were not given to the committee.

Tabulation and Analysis of the Survey

A careful study and analysis has been made of the

TABLE I.—(I) WHAT TYPE OF MICROSCOPIC EQUIPMENT DO YOU HAVE AT PRESENT

No. of laboratories	Microscopes: X	Mo-nocular	Bi-nocular	Petro-graphic	Chemical micro-scope	Promi	Eu-scope	Dis-secting micro-scope	Polar-izing equip-ment	Micro-tome	Projec-tion equip-ment	Eye-piece camera	Photo-micro-graphic camera	Acces-sories
1	..	1	..	1	..	..	..	..	..	..	..	..	..	..
1	..	..	..	1*	..	..	..	..	..	..	..	..	..	..
1	..	..	..	..	..	1**	..	..	..	..	..	..	..	..
1	..	1	1	..	..	..	..	..	1	..	..	..	1	..
28	1	..	..	..	1	..	..	..	..	..	..	..	..	..
1	..	1	1	..	..	..	..	..	..	..	..	..	..	..
3	..	1	..	..	..	..	..	..	..	..	..	..	..	..
1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
1	..	1	..	..	..	..	1	..	..	..	..	..	..	..
3	1	..	..	..	..	..	..	..	..	..	1	..	..	..
1	1	..	..	..	..	..	..	..	1	..	..	..	..	..
1	1	..	..	..	..	..	..	..	1	..	..	1	..	..
1	..	1	..	..	..	..	..	1	..	..	1	..	1	X
1	..	..	..	..	1	..	..	..	..	..	..	..	..	..
4	2	..	..	..	..	..	..	..	..	..	..	..	..	..
5	..	1	1	..	..	..	..	..	..	..	..	..	..	..
1	..	2	3	..	..	..	..	..	..	..	..	..	..	..
1	..	2	..	..	..	..	..	..	1	..	..	..	1	X
1	..	3	2	..	..	..	..	..	1	..	..	..	1	X
1	..	5	..	..	..	..	1	..	1	2	..	..	3	X
1	..	All types of monocular, binocular, and photomicrographic equipment.												

X—No description of the microscopes was given (2 laboratories neglected to describe type of equipment).
* Asbestos paperboard and papers. ** Sulphate pulp only.

* To be presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Roosevelt Hotel, New York, N. Y., Feb. 17-20, 1941.
[1] Chairman, TAPPI Microscopy Committee; Superintendent Main Laboratory, Kimberly-Clark Corp., Neenah, Wis.

TABLE II.—(II) WHAT IS THE EDUCATIONAL BACKGROUND OF THE ONE DOING YOUR MICROSCOPIC WORK

No. of laboratories	Number employed	Degree: Bachelor	Degree: Master	Degree: Ph.D.	School: Syracuse pulp and paper	School: I.P.C. summer school	School: Technical school	School: High school	Subject: Chemistry	Subject: Chemical engineering	Subject: College microscopy	Subject: Bacteriology	Subject: Metallography	Years of laboratory experience
1	2	X	..	X	..	..	..	..	..	..	..	..	..	.....
1	1	..	..	X	..	..	..	..	..	..	1	..	..	.....
2	1	..	X	..	..	..	..	..	..	X	..	..	..	.....
2	1	..	X	..	..	X	..	..	..	..	..	..	..	.....
1	1	X	..	..	..	X	..	..	..	X	..	X	..	.....
2	1	X	..	..	..	..	..	..	..	..	..	X	..	.....
3	1	X	..	..	..	X	..	..	..	..	..	..	..	.....
1	1	X	..	..	..	..	..	..	X	..	..	..	..	12
2	1	X	..	..	..	..	..	..	..	..	..	..	..	5–12
5	1	X	..	..	X	..	..	..	..	..	..	..	..	.....
5	1	X	..	..	..	..	..	..	..	X	..	..	..	.....
7	1	X	..	..	..	..	..	..	X	..	..	..	..	.....
14	1	X	..	..	..	..	..	..	..	..	..	..	..	.....
2	1	..	..	..	..	..	X	..	..	..	..	..	..	.....
2	1	..	..	..	..	X	..	X	..	..	..	..	..	15–20
1	1	..	..	..	..	X	..	X	..	..	..	..	..	.....
3	2	X	..	..	..	..	..	..	X	..	..	..	..	.....
1	2	X	..	..	..	..	..	..	1	..	..	..	1	.....
1*	3	2	..	..	..	..	1	..	..	..	..	..	..	.....
1**	5	4	..	..	..	..	..	X	..	..	..	..	..	.....
2***		a number of college-trained men							..	..	..	..	..	.....

* Special highest grade papers.
** Rag content bonds, ledgers, index and mimeograph.
*** High grade note papers, book, offset, rotogravure, lithograph, writing, cover, and label.

answers to each question, the results of which are given in the following pages. In the tabulations of the answers, the type of paper made and the daily tonnage were included in order that the answers might be correlated with the type of mill. Thus, it is easier to understand and evaluate the relative weight of the answers and to determine which problems are of immediate importance.

(III) Would you mind giving name and position of the person doing your microscopic work?
(IV) May the committee correspond directly with this man and get his opinion and reaction to possible problems?

These two questions were included to give the chairman of the microscopy committee permission to write the people in charge of microscopic work directly and to thus get first-hand information on their problems. Forty-two of the companies gave name and permission for direct correspondence, 10 preferred having the correspondence addressed to the technical director or the chief chemist of their company, and 9 did not answer these questions.

The answers to Question V, Table III, show the percentage of laboratories using:

TAPPI Standard	3.3%
The Herzberg stain with other stains (not the "C" stain)	23.3%
13% make regular analysis	
The Herzberg stain with the "C" stain and others	26.7%
20% make regular analysis	
The Sutermeister stain with other stains (not the "C" stain)	6.6%
The Sutermeister stain with the "C" stain	2.0%
The "C" stain alone	29.7%
23.0% make regular analysis	
All standard stains	3.3%
No stains (asbestos boards)	2.0%
No specification of stains used	3.3%

(VI) Do you do microscopic analysis of specks and dirt?

34 Yes	56%
20 Occasionally	33%
7 No	11%

Of the 7 companies that do not make an analysis of any kind, only one manufactured book, bond, writing,

TABLE III.—(V) TO WHAT EXTENT DO YOU USE FIBER ANALYSIS

No. of laboratories	Extent of Use: Regular	Extent of Use: Limited	Extent of Use: Infrequent	Stains: Herzberg	Stains: Sutermeister	Stains: "A" stain	Stains: "C" stain	Stains: TAPPI Standards	Stains: Lofton and Merritt	Stains: Bright	Stains: Alexander	Stains: Seleger	Stains: Phloroglucin	Stains: Special wood stains	% Accuracy: Quantitative	% Accuracy: Qualitative
1	X	..	..	..	..	..	..	X	..	..	..	..	..	..	3	...
1	X	..	..	X	..	..	..	X	..	..	..	..	..	..	5	...
2	X	..	..	X	..	..	..	..	..	..	..	..	..	..	....	...
1	..	..	X	X	..	..	..	..	..	..	..	..	X	..	....	...
1	..	..	X	X	..	..	..	..	..	..	..	X	..	..	5–10	...
2	X	..	..	X	..	..	..	..	X	X	..	..	..	..	10	...
1	..	X	..	X	..	..	..	..	X	X	..	..	..	..	5	...
2	X	..	..	X	..	..	..	..	X	X	X	..	..	..	5	...
1	..	X	..	X	..	..	..	..	X	..	..	..	..	..	10	...
1	..	..	X	X	..	..	..	..	X	..	X	..	..	..	....	...
1	..	..	X	X	X	..	..	..	X	X	..	..	..	..	....	X
1	X	..	..	X	..	X	..	..	..	X	X	..	..	..	....	...
1	X	..	..	X	..	X	..	..	X	X	..	..	..	..	5	...
1	X	..	..	X	X	..	X	..	X	..	..	..	..	..	2	100
1	X	..	..	X	..	..	X	..	X	..	..	..	..	..	3	...
1	X	..	..	X	..	..	X	..	X	..	..	..	..	..	10	...
3	X	..	..	X	..	..	X	..	X	X	..	..	..	..	5	...
2	X	..	..	X	..	..	X	..	X	X	..	..	..	..	10	...
1	X	..	..	X	..	..	X	..	..	X	..	..	..	..	5	...
1	X	..	..	X	..	..	X	..	X	X	..	X	..	..	5	...
1	..	..	X	X	X	..	X	..	..	..	..	..	..	..	....	...
2	X	..	..	X	..	..	X	..	..	..	..	..	..	..	5	...
2	..	X	..	X	..	..	X	..	..	..	..	..	..	X	....	...
1	..	..	X	X	..	..	X	..	..	..	..	..	..	..	....	...
2	X	..	..	..	X	..	..	..	X	X	..	..	..	..	5	...
2	..	X	..	..	X	..	..	..	X	..	..	..	..	..	5	...
1	X	..	..	..	X	..	X	..	..	..	..	..	..	..	....	...
5	X	..	..	..	..	..	X	..	..	..	..	..	..	..	2–3	...
8	X	..	..	..	..	..	X	..	..	..	..	..	..	..	5	...
2	..	X	..	..	..	..	X	..	..	..	..	..	..	..	5	...
2	..	..	X	..	..	..	X	..	..	..	..	..	..	..	....	...
1	X	..	..	..	..	..	X	..	..	X	..	..	..	..	15	...
1	Uses no stain			..	..	..	..	..	..	..	..	..	..	..	....	...
2	All standard stains			..	..	..	..	..	..	..	..	..	..	..	....	...
2	No stains given			..	..	..	..	..	..	..	..	..	..	..	....	...

and cover papers; the others were manufacturers of paperboard, rope, and manila sandpaper stock, corrugating and unbleached kraft pulp.

(VII) Do you make microscopic determinations of fiber dimensions?

15	Yes	25%
17	Occasionally	28%
28	No	46%
1	No answer	1%

Of the 15 making regular fiber dimensions, one makes asbestos paper; 3, parchment, glassine, greaseproof, etc.; 2 manufacture paperboard and cartons; 6 make a variety of book, writing, etc.; 1, a high grade special paper, and 2, are manufacturers of pulp.

(VIII) Do you make microscopic studies of beating characteristics of pulp?

19	Yes	31%
15	Occasionally	25%
27	No	44%

(IX) Do you make particle size determination of pigments?

9	Yes	15%
6	Occasionally	10%
46	No	75%

Of the 9 making regular particle size determinations, 1 made asbestos papers; 5, coated paper, book, rotogravure, lithograph, offset, etc.; 2, waxing, vegetable parchment, greaseproof, bond, manifold, wrapping, etc.; and 1, a special grade of paper.

(X) Do you do any bacteriological work?

14	Yes	23%
2	Occasionally	3%
45	No	74%

Of those doing regular bacteriological work, 4 are manufacturers of glassine, greaseproof, and manifold, and 1 of these has its own bacteriologist; 6 are manufacturers of paperboard and carton stock of which 1 states that they do not use the microscope, and 1 company makes bacterial counts only; 2 are manufacturers of a variety of papers and 1 of these uses it only for slime control; 1 manufactures a high grade specialty paper and 1 is a kraft pulp mill.

(XI) Do you use stains and reagents to study the uniformity of cook, bleaching and purification of pulp fibers?

9	Yes	15%
6	Occasionally	10%
46	No	75%

(XII) To what extent do you use photomierography?

6	Considerable	10%
16	Some	26%
39	Do not use any	64%

The uses made of photomicrography were stated as follows: study of pigment particles, fiber work, beating characteristics of furnishes, surface characteristics of papers, research, for records and publications, wire failures, and seam type.

(XIII) What in your opinion should be the first and most important work of this committee?

The answers to this question have been arranged as far as possible in groups. The requests for standard procedures have been divided into two groups, because it was difficult to decide whether the writer meant standard method for fiber analysis (T 401 m) or general standards.

A. (TAPPI Standard T 401 m)

1. Revision and simplification of standard methods of testing. (Requested by 5 mills making paperboard, carton, news, hanging, corrugating, coating, manila, wrapping, waxing, writing, envelopes, bond, and ledger at a total of 530 tons a day.)
2. Attempt to standardize on one stain for fiber analysis. (Requested by 2 mills making book, bond, envelope, mimeograph, tissue, glassine, greaseproof, waxed, and wrapping with 897 tons per day.)
3. Investigation of the "C" stain as the standard for fiber analysis. (Requested by a concern making paperboard, cap stock, bond, lace paper stock, waxing, wrapping, and sulphite pulp—385 tons per day.)
4. Improvement of counting method and Graff's "C" stain. (Request made by 2 mills making wax, parchment, greaseproof, bond, manifold, writing, book, offset, drawing, envelope, music and lithograph papers; totalling 425 tons per day.)

The counting method, when the slides are made according to the standard method, is simple, reproducible, and accurate. The difficulty that some may have with the "C" stain is either a result of deficiency in color differentiation, inaccurate centering of the light and focusing of the condenser, or a disregard for the constant variation of the daylight. The latter will be overcome when using the daylight fluorescent lamp *(1)*.

5. Put the "C" stain across. (Requested by 1 mill making rope and jute papers, paperboard, insulating book, bond, coating, drawing, envelope, lithograph, offset, writing, glassine, greaseproof, onionskin, etc.—100 tons per day.)

B. Standards of Procedure

1. Standardize the methods and make them practical for continual daily mill use. (Requested by 3 mills—750 tons per day.)
2. Standardization of stains. (Requested by 3 mills—592 tons per day.)
3. Development of stains for bleached sulphite and bleached sulphate differentiation. (Requested by 2 mills—323 tons per day.)
4. Develop stains to accurately differentiate between well-cooked unbleached and lightly bleached sulphite. (Requested by 1 mill—365 tons per day.)

In reference to the requests B. 3 and 4 it can be stated that the differentiation between bleached sulphite and bleached sulphate is one of the simplest analysis with the "C" stain. The difference between well-cooked unbleached and lightly bleached sulphite has become much simpler since the "C" stain together with the daylight fluorescent lamp have been brought into use.

C. Cooking Stain
Develop a short method for a cooking stain test that can be used in the pulp mill for control in cooking. (Requested by two mills —490 tons per day.)

A cooking stain test has recently been developed through the use of the Bright stain, the results of which may be published soon *(2)*.

D. Weight Factors
Determine the weight factors of various pulps. (Requested by 1 mill—365 tons per day.)

Weight factors have already been determined for most pulps *(3)*.

E. Spects and Dirt
Establish a more thorough positive method for the identification of specks and dirt. (Requested by 4 mills—1430 tons per day.)

At present, work is underway on a systematic method for the analysis of specks and dirt.

F. Stains for Starch and Rosin Sizing
(Request made by 1 mill—355 tons per day.)

A staining method for determining the relative amount of starch in paper (beater or tub-sized) has already been developed, the report of which will be published in the near future.

G. Analysis of Fillers
(Requested by 1 mill—1093 tons per day.)

H. Beating Characteristics
Microscopic determination of degree and character of beating. (Requested by 1 mill—15 tons per day.)

A method for microscopic determination of degree and character of beating is being developed at the present time.

I. Standard Methods for Particle Size and Fiber Dimensions. (Requested by 1 mill—35 tons per day.)

For standard methods of particle size and fiber dimensions full information is found in the following publications: *(4, 5, 6, 7, and 8)*.

J. Simple and Satisfactory Method for Cross Sections of Paper. (Requested by 1 mill—355 tons per day.)

Such a method has recently been developed and may be published soon *(9)*.

K. Bacteriological Methods
(Requested by 1 mill—150 tons a day.)

L. Educational
1. Produce simple and not too costly color charts and colored photomicrographs of various fibers.

Accurate color charts of stain reactions on pulp fibers have been published *(10)*. Color photomicrographs of fibers and fiber mixtures can be made, but such work, if accurate and of value, will necessarily be very costly.

2. Atlas showing photomicrographs of fibers of various kinds of wood.
3. Develop educational program of fiber identification by illustrating characteristics of markings peculiar to the various types of fibers ordinarily used in paper making.

Atlases and books showing morphological characteristics of fibers have been published in great numbers *11, 12, 13, 14, 15, and 16)*

4. Arrange for a series of articles on "use of the microscope in paper mills."
5. The compilation of a TAPPI publication on microtechnique for paper mill chemists.
6. Collect, classify, and publish in a monograph a complete summary of all possible microscopic methods and techniques of interest to pulp and paper mills, even including those which are infrequently used and of doubtful value. This would serve as a starting point for refinement and development of many of the lesser known techniques.

A manuscript, "Pulp and Paper Microscopy," issued by The Institute of Paper Chemistry, answers many of these questions.

7. Trial of recently developed stains and techniques to keep TAPPI members informed of the most efficient and up-to-date techniques in microscopy.
8. Assistance in mill problems relating to microscopy.

We believe that 7 and 8 comprise the main purposes of the services of this committee. Any request regarding assistance or information on microscopic techniques should be sent to the Secretary of the Technical Association of the Pulp and Paper Industry who will forward them to the microscopy committee.

9. Organize special training courses in microscopy of pulp and paper for graduate men.

The Institute of Paper Chemistry has held three, 2-week summer courses in fiber microscopy and one 2-week course in photomicrography for the technical men in the industry and it would probably be of value to continue these or similar courses in the future.

M. Special Requests
1. Collect and distribute, or make available, samples of various kinds of pulps, each of known history as to kind of wood, pulping processes, degree of bleaching, etc., so that analysis can prepare comparative slides.

It would be both difficult and costly to provide each individual laboratory with such a collection. However, it would be valuable if at some place closely in contact with the pulp and paper industry a reference library collection could be made of various kinds of pulps (both standard and experimental) of known history, including pulping process, cooking, and purification, such a collection to include not only the different wood pulps but also those made from vascular bundle and bast fibers. Care and checks should be made that such samples are authentic both as to species and as to treatment.

2. Development of methods of analysis without stains.

Analysis without stains using either polarization equipment for dichroic characteristics or ultraviolet equipment for fluorescence differentiation of fibers are valuable in studying certain fiber characteristics but cannot be used for everyday fiber analysis of paper furnishes.

3. Determine whether any correlation exists between the microscopic observations of sulphate fibers and subsequent strength characteristics of the finished paperboard.

A problem for the individual mill to determine for themselves.

4. Make a survey for comparisons, and recommendations for the cheapest sufficient microscopic equipment for research in the paper industry.

This point is well taken. In 1936, Graff referred to some of the microscopic equipment essential in the average pulp and paper mill laboratory *(17)*, but there is much to be done toward standardization of equipment and interchangability of accessories.

The result of the analysis of these answers to the questionnaire does show that the industry as a whole is interested in the use of the microscope and microscopic techniques for many different purposes. A large number of valuable suggestions, for immediate and future work, has been given for consideration of the committee. However, the answers as a whole suggest that before the microscopy committee can plan a constructive attack upon the different problems, it would be of great value both to the industry, the technical men doing microscopic work in the different laboratories, and to the committee members if it could be possible, in the near future to hold a two- or three-day convention, at some appropriate place, strictly devoted to the uses of microscopy in the pulp and paper field. Such a convention to be primarily for the technical men who are responsible for the microscopic work in the different mill laboratories.

The program for such a convention should be arranged according to suggestions made by the different laboratories and, if possible include outstanding speakers on subjects as:

Microscopic equipment and its uses; and fundamentals of microscopic optics and illuminations.
The value and practical application of microscopic determination of particle size.
The use of the microscope in colloid chemistry.
Application of chemical microscopy in the pulp and paper industry.
The use of stains and reagents for color differentiations of sizing, coating and special characteristics of papers.
The practical application of the principles of dichroism, double refraction, and fluorescent microscopy.
Photomicrography as a tool in industry.

Proposed Revision of TAPPI Standard T 401 m

In the answers to the questionnaire, 30% of the total number of mills responding asked, either directly or indirectly, for a revision and simplification of the present standard of TAPPI Standard T-401 m.

In response to this demand the committee in preparing such a revision realizes that individual laboratories, for their own particular purposes of analysis and control, can use any method technique, or stains that happens to be the most logical for their own particular need. Therefore, an official standard method is either to be used as a guide or in the case of controversies (where no one would think of having the work done by inexperienced technicians) therefore such a standard does not have to be either a text or reference book.

With this in mind the committee has prepared a revised TAPPI Standard T 401 m acceptable to its own members, and has given copies to the chairman of Testing Division for its recommendation to the TAPPI Standards Committee.

Publications on Microscopy in 1940

The fourth revised edition of Biological Stains, a handbook on the nature and uses of dyes employed in the biological laboratory has been published *(18)*. A color atlas for fiber identification by Graff showing the color reactions of different pulps when stained with the Herzberg stain, the "A" stain, and the "C"

stain, and also the color reactions of the Bright stain and the Lofton and Merritt stain for different degrees of cooking and purification of pulp fibers was jointly published by the Technical Association of the Pulp and Paper Industry, American Pulp and Paper Association, and The Institute of Paper Chemistry *(10)*. An atlas showing morphological characteristics of different papermaking fibers was published by Vidal *(16)*.

A paper by Hechtman and Graff shows correlations between the cooking stain method and chemical methods for determining the bleachability of pulps and indicates that the cooking stain correlates well with lignin content and with those properties of a pulp depending upon the lignin content *(19)*. Schaeffer published a paper on qualitative and quantitative separation of textile fibers, with particular reference to mixtures with rayon, staple fibers, and casein fibers *(20)*.

Two papers have been given on fiber-surface area; one by Fowler and Hertel determining the surface area by the flow of air through a fiber mat *(21)*; and one by Graff, Schlosser, and Nihlen where the cross-section areas of the fibers in a pulp are used to determine the number of fibers per unit area, the relative volumes of the gross and net areas, the areas of the lumen, the voids between the fibers, and the total surface areas for the fibers of a given unit weight *(22)*.

A paper by Odrian and Graff on pulp and paper impurities shows that the speck count, both in special prepared handsheets and in lap sheets depends upon the type of light used and distances of the light from the sheet, the basis weight of the sheet, and also the height of the eyepoint above the sheet when counting the specks. Suggestions for standard methods of speck counting both for the laboratory and for the mill are made *(23)*. A paper describing how to resolve the compound middle lamella into its component parts, the true intercellular substance, and adjacent primary walls in thin sections of white pinewood by the use of infrared photomicrography using neocyanine, an infrared absorbing dye, has been published by Fowler and Harlow *(24)*.

A paper by Kühnel shows the experimental results of embedding foreign noncellulosic substances into fibers for the purpose of measuring the capillary spaces and elucidating the molecular structure of fibers. He found that the best technique was to use two components, one after the other, for depositing the foreign substance in the fiber; and the first of these two must always contain alkali in some form in order to produce swelling *(25)*. A French author has given a paper on fiber dimensions and beating, discussing methods measuring the extent to which fibers are shortened by beating as well as factors which exert an influence on fiber length, such as characteristics of beater and tackle, period of beating, consistency of beater charge, pressure roll, and kind of pulp *(26)*.

Armitage describes a successful application of a polystyrene (Distrene 80) as a substitute for Canada balsam as a mounting media with no adverse effects on the stains normally used and to Chlorazol black E as a fiber stain; the latter is not a selective stain, but imparts a dark violet or blue color to the fibers and brings out their minute structure beautifully *(27)*. A paper on using glycerin and liquid India ink as an embedding medium for section cutting, as India ink, being a dispersion of carbon particles, does not stain any fibers and has a very great opacity, has been published by Preston *(28)*.

Herzog has published an article on the use of the polarization microscope for fiber analysis, fiber identification and for detecting defects *(29)*. A brief summary of techniques which have been found most useful in textile microscopy with reference to instruments required and photomicrography has been published by Dillmann *(30)*.

A paper of Mangenot and Raison describes the process, as observed under the microscope, of the gelatinization of nitrated cellulose fibers of cotton and ramie by nitroglycerin, methyl nitrate, diethylene glycol nitrate, and cyclopentanone *(31)*. A paper by Butterfield shows that photomicrography, to be successful, depends upon the same three factors that determine successful photography of the common variety; namely, adequate camera and optical equipment, correctly illuminated subject, and proper handling of the photographic materials *(32)*.

Literature Cited

(1) Graff, John H., Daylight fluorescent lamps for fiber analysis. *Paper Trade J.* 112, no. 2:39-40 (Jan. 9, 1941).

(2) Graff, John H., "Comparison of the Bright stain factors and chemical methols for determining the bleachability of pulps." Unpublished work. The Institute of Paper Chemistry, 1940.

(3) Graff, John H., "Weight factors of beaten pulps." *Paper Trade J.* 110, no. 2:37-40 (Jan. 11, 1940).

(4) Weigel, W. M., "Size and character of grains of raw metallic mineral fillers." Dept. of the Interior, Bureau of Mines, Tech. Paper 296 (1924).

(5) Perrott and Kinney, "The meaning of microscopic measurements of average particle size." *J. Am. Ceram. Soc.* 6:417-439 (Feb. 1923).

(6) Green, Henry, "The microchemistry of white pigments and inerts as they occur mixed in paint." *Ind. Eng. Chem.* 16:677-680 (1924).

(7) Kühn, Curt, "The value of fine particle counts." *Z. Angew. Chem.* 28:126-128 (1915).

(8) Graff, John H., and Miller, R. W., "Fiber Dimensions." *Paper Trade J.* 109, no. 6:31-37 (Aug. 10, 1939).

(9) Graff, John H., "Cross-sectioning of paper." Unpublished work. The Institute of Paper Chemistry, 1940.

(10) Graff, John H., "A Color Atlas for Fiber Identification." Appleton, Wis., The Instituite of Paper Chemistry, 1940.

(11) Hanausek, T. F., and Winton, A. L. "Microscopy of technical products." (1916).

(12) Harrar, Ellwood S., and Lodewick, J. Elton, "Identification and microscopy of woods and wood fibers used in the manufacture of pulp." *Paper Ind.*, no. 15:630-637; no. 16:103-111, 327-335 (Feb., May, and Aug., 1934).

(13) Carpenter, Charles H., "An atlas of papermaking fibers." New York State College of Forestry, Tech. Publ. no. 35. 1931.

(14) Matthews, J. Merritt, "The Textile fibers," New York, Wiley, 1924.

(15) Herzog, Alois, "Mikrophotographischer Atlas der technisch wichtigen fasserstoffe." München, Obernetter, 1908.

(16) Vidal, L., "L'Analyse microscopique des papiers." *Le Papier*, Grenoble, France. 1929.

(17) Graff, John H., "The essential qualifications and training of a microscopist for the pulp and paper industry." *Tech. Assoc. Papers* 19, no. 1:305-308 (June, 1936).

(18) Conn, H. J., "Biological stains." Geneva, Biotech Publ. 1940.

(19) Hechtman, John F., and Graff, John H., "Comparison of the cooking stain method and chemical methods for determining bleachability of pulps." *Tech. Assoc. Papers* 23:138 (June, 1940); Paper Trade J. 111, no. 5:30-34 (Aug. 1, 1940).

(20) Schaeffer, Albert, "Qualitative and quantitative fiber separation." *Melliand Textilber.* 21, no. 2:65-70 (Feb., 1940).

(21) Fowler, J. L., and Hertel, K. L., "Flow of a gas throught a porous media." *J. Applied Phys.* 11, no. 7:496-502 (July, 1940).

(22) Graff, John H., Schlosser, M. A., and Nihlen, Eda K., "Cross sections of pulp fibers." *Paper Trade J.* 111, no. 9:75-80 (Aug. 29, 1940).

(23) Adrian, Alan P., and Graff, John H., "Comparative evaluation of the different methods of dirt count of pulp." *Paper Trade J.* 111, no. 19:32 (Nov. 7, 1940).

(24) Fowler, W. Frank, Jr., and Harlow, William M., "Infrared photomicrography reveals plant cell wall structure." *Paper Ind.* 21, no. 11:1159-1160 (February, 1940).

(25) Kühnel, Ernst, "Experiments for making the inner structure of cellulose fibers visible by embedding foreign substances." *Kunstseide* 22, no. 1:3-7; no. 2:35-38 (Jan., Feb., 1940).

(26) "Beating and shortening of fibers." *Papier* 43, no. 2:81-86 (Feb., 1940).

(27) Armitage, F. D., "Notes on microscopy." *Patra J.* 4, no. 1:8-9 July, 1940).

(28) Preston, J. M., "Section cutting by a modified plate method." *J. Textile Inst.* 31, no. 8:T206 (Aug., 1940).

(29) Herzog, Alois," The application of the polarization microscope to the investigation of fibrous substances." *Melliand Textilber.* 21, no. 3:97-105 (March, 1940).

(30) Dillmann, Fritz, "Practical textile microscopy." *Kunstseide* 22, no. 3:60-64 (March, 1940).

(31) Mangenot, Georges, and Raison, Madeleine, "Morphological characteristics of the gelatinization of cellulose nitrate membranes." *J. Textile Inst.* 31, no. 7:A395 (July, 1940).

(32) Butterfield, John V., "Practical notes on photomicrography." *Paper Ind.* 21, no. 12:1258-1260, 1263 (March, 1940).

Blowdown Heat Recovery Systems for Sulphate Mills*

By G. A. K. Hunt[1] and H. C. L. Miller[2]

Abstract

Sample calculations and curves from which the recoverable heat may be determined are given. The design and operating characteristics of three types of systems which have been used are described and analyzed.

Difficulties encountered in surface and liquid-to-liquid jet-condenser systems have been overcome by the development of a jet system with vapor-to-liquid heat exchange from contaminated to fresh water. Fully automatic control is an important feature of any successful application and the type developed for this service is discussed at some length.

There are a number of ways in which heat in the steam flashed (Fig. 1) off during digester blows may be recovered and used for heating wash water or other process applications. The purpose of this paper is to discuss the general aspects of the problem, to describe several methods which are in common use, to indicate the design and operating problems which have been encountered, and to describe the manner in which they have been solved.

A workable solution of this heat recovery problem becomes of greater importance as production of the softer grades of sulphate pulp is expanded. Wash water requirements for easy bleaching pulp are higher in gallons per ton than for ordinary kraft stock, and in any washing operation the results are more uniform with controlled temperature conditions. Thus it is necessary to utilize all heat available from digester blows and so to design these systems, in combination with other sources of reclaimed and primary heat, that the requisite quantity of hot water is available at a uniform temperature under all mill operating conditions. For many years, no attempt was made to recover heat from the digester blows. Hot water, if used, was obtained (1) by blowing steam from the power plant directly into the water storage tank, (2) from pans in the liquor recovery plant, or (3) by admitting steam into the shells of closed heat exchangers from which the condensate could be returned to the boiler plant. The use of steam from the power plant, even if extracted from the turbines, is seldom economical and should be avoided as far as possible. With the development of automatically-controlled blowdown condensing systems, the use of power plant steam has been greatly reduced in many modern mills. Some, however, still use direct steam for final recovery of hot water temperature.

The economic value of possible recovery amounts to about 2,200,000 B.t.u. per ton of pulp. In a 250-ton mill burning oil under the power boilers at a cost of $1.10 per barrel, and with average boiler efficiency of 80%, the value of recoverable heat in blowdown, represented by fuel alone, is $120 per day or $40,800 per 340-day year. The total cost of the heat recovery system for such a mill would be less than $25,000. The installation would give therefore a substantial return on the investment.

The calculation of recoverable heat is a relatively simple matter and may best be explained by a typical example. Let us assume a mill with four 2500-cu. ft. digesters, operating on a 4-hour cover-to-cover cycle with indirect heating, and producing about 160 tons of pulp per day. The average charge to these digesters would probably be:

Total chips (wet basis)	55,000 pounds
Total liquor	7,500 gallons

The water equivalent of this charge with 50% moisture in the chips and neglecting temperature changes in metal, which are insignificant in this calculation, would be (using 0.33 as the specific heat of moisture-free wood)

Moisture-free chips	55,000	× 0.5	× 0.33	=	9,083
Water in chips	55,000	× 0.5	× 1.00	=	27,500
Liquor	7,500	× 8.33	× 1.00	=	62,500
			Water equivalent, pounds		109,083

In other words, the total charge will act, from a thermodynamic standpoint, like 109,083 pounds of pure water at the same pressure and temperature conditions—after correcting the weights of the various components of the mixture by using the appropriate specific heats. The liquor has been assumed to have the gravity and specific heat of pure water. Neither of these assumptions is strictly true but the net result has been found to be accurate for the purposes of such calculations.

About 10% of this total water equivalent is unavailable when the unit is blown—the loss being represented by the gassing of the digester during the cook, radiation from the system, etc. From Fig. 1 the steam flashed to the blow recovery system, if the unit is blown from 105 pounds gage pressure, will be:

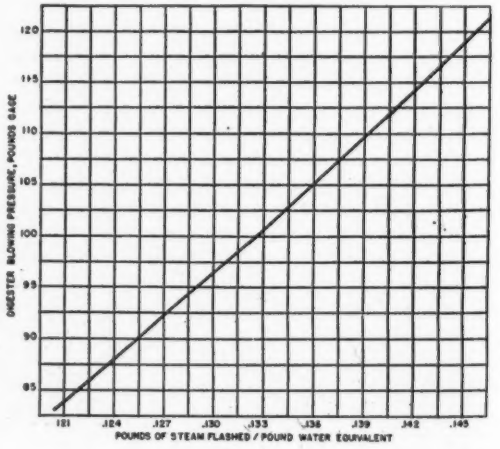


Fig. 1

* To be presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Roosevelt Hotel, New York, N. Y., Feb. 17-20, 1941.

[1] District Engineer, Foster Wheeler Corporation, Richmond, Va.

[2] Southeastern District Manager, Foster Wheeler Corporation, Richmond, Va.

0.9 × 109,083 × 0.136 = 13,352 pounds per blow. The blow system should recover the total heat in this steam at atmospheric pressure (1150.4 B.t.u. per pound) less the heat in the same quantity of contaminated condensate which is rejected to the sewer at about 135 deg. F. or, 1150.4 — 102.9 = 1047.5 B.t.u. per pound of steam blown. This heat recovery from the mill assumed, blowing 24 charges per day, will average:

(24 × 13,352 × 1047.5)/24 = 14,000,000 B.t.u. per hour, which is sufficient to heat fresh water from 60 deg. F. to 140 deg. F. at the rate of 350 g.p.m. or 3150 gallons of wash water per ton of production. Using Figs. 2 and 3, these calculations can be duplicated for any set of conditions.

Hot water requirements for washing will vary from 2,000 to 7,000 gallons or more per ton depending upon the grade of pulp being produced, the type of washing equipment and the subsequent treatment to be given. Figure 4 shows the heat requirement in wash water for various quantities per ton and corresponding wash water temperature rises. In the case of mills deriving their fresh water supply from wells, the inlet temperature is nearly constant throughout the year and the blowdown heat recovery system will operate under relatively steady conditions. However, when the water supply is obtained from rivers, the inlet temperature will vary widely from season to season and the wash water requirement in total heat units will change proportionately where a constant washing temperature is desired. In such mills it is often necessary to find other sources of heat to make up the total required—either a gas-off condenser, surface condenser on the evaporator or, finally, a shell-and-tube heater fed with steam from the lowest turbine bleed point.

So much for the general statement of the problem, which is essentially one of transferring heat from an intermittent supply of contaminated steam to a relatively constant quantity of uncontaminated water. Any workable arrangement must include a storage tank in the system to act as a flywheel in the thermal cycle.

Two main types of recovery systems have been developed and are in common use. These are classified as (1) the surface condenser and (2) the jet, or direct-contact, condenser system.

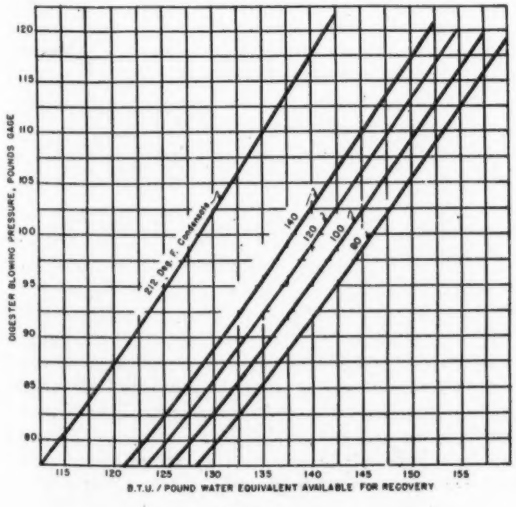


FIG. 2

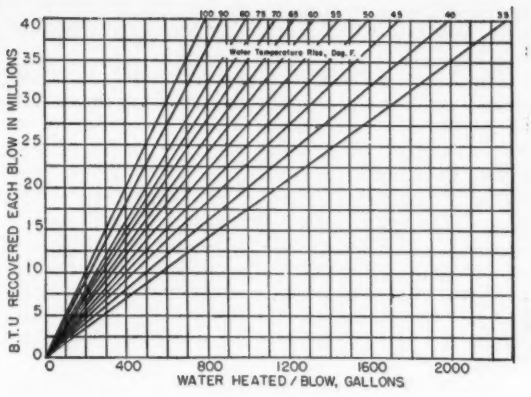


FIG. 3

Surface Condenser System

Figure 5 shows the general arrangement of a typical surface condenser system in which steam from the cyclones or diffusers is led to a multitubular condenser containing special provisions to reduce impingement on the tubes forming the cooling surface and to provide, as far as possible, for the removal of pulp particles which are carried along with the steam. The accumulator effect is obtained in the large fresh water storage tank. When a blow commences, the initial inrush of noncondensable gases which precede the steam, operates a stack switch in the vent. An electric controller starts the pump supplying water to the condenser and opens the regulating valve wide. Thereafter, the supply of water to the condenser is controlled by the temperature bulb in the outlet water line and the valve at the inlet is operated so as to maintain constant temperature in the supply to the top of the storage tank where the heated water is collected. A level control regulates the admission of makeup.

This system is relatively simple both in design and operation. However, in spite of washing arrangements for the exterior heating surface, either manually or automatically controlled, and a specially designed condenser layout, there is a tendency for the fine pulp particles carried along with the steam to accumulate in the tube bundle and reduce the effectiveness of the heating surface. It is possible, of course, to provide extremely large lanes in the tube

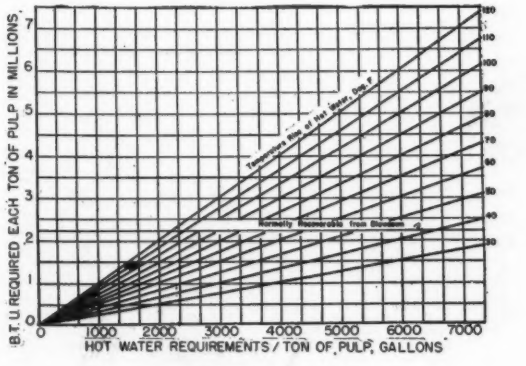


FIG. 4

bank and wide tube spacings but this increases the condenser size for a given duty and correspondingly increases the cost.

The tubes in the surface condenser are usually plain steel since the steam and condensate are alkaline. In the selection of a surface condenser system, care should be taken to assure that the fresh water supply does not contain solids which would be deposited in the tubes while the water passing through them is being heated. In several installations incrustation has been so severe that frequent turbinings of the tubes were necessary until the water supply was improved. This internal scale reduced the heat transfer to a point where much of the blown steam passed through the unit to atmosphere without being condensed.

An inherent disadvantage of the surface condenser system is that the condensate leaves the condenser at or about the boiling point at atmospheric pressure, 212 deg. F., whereas in the jet condenser systems later described it leaves the system at 140 deg. F. or below. This represents a considerable loss of heat (72 deg. F.) unless a condensate cooler is installed. Any condensate cooler would necessarily be of the liquid-to-liquid type and, as the condensate always contains some small percentage of pulp in suspension, such a cooler would probably plug up eventually and give trouble.

It should be noted in the consideration of any type of blow recovery unit that the rate at which steam is evolved during the blow varies to a marked degree—not from blow to blow but during the period of any particular blow. The total time of the blow, and the relation of the peak to the average rate of steam flow, is affected by the size of the blow lines and by the mechanical design of these lines and the diffusers, separators, cyclones, or blow tank. Tests on typical systems indicate that the peak rate of steam flow is from 1.6 to 1.8 times the average rate as calculated by the foregoing method. To be effective in recovering all of the heat available, the condenser on any system must be designed to handle this peak rate. Thus the surface condenser, being the primary as well as the secondary unit in this system, must be selected for the peak rather than the average rate. This tends to increase the cost of the surface condenser design as compared to jet condenser systems, in which a relatively cheap, direct-contact unit condenses the steam, and heat is transferred to the fresh water by a secondary system operating continuously at the average rate—the accumulator being between the two.

The simplicity and low power charges of the surface condenser system, however, make it attractive in many instances and it has been generally used.

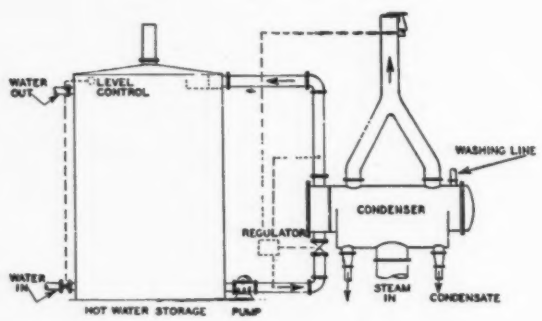


FIG. 5

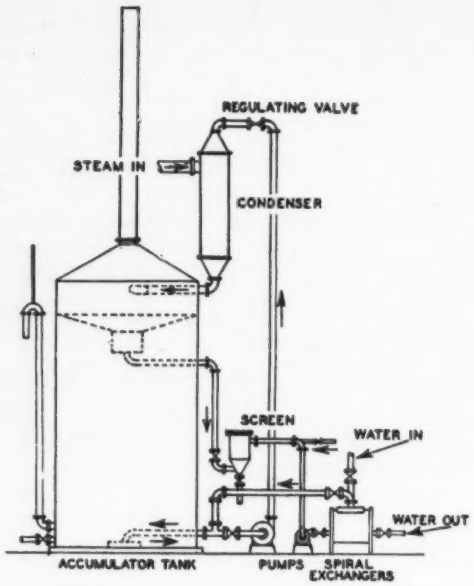


FIG. 6

Jet Condenser Systems

There are two common types of jet condenser systems. They differ principally in the manner by which heat in the accumulated contaminated water is transferred to the fresh water, and may be classified as (a) liquid-to-liquid heat exchanger, and (b) vapor-to-liquid heat exchanger.

Figure 6 is a typical arrangement of the liquid-to-liquid system. The steam flashed from the digester blows is condensed in a parallel flow condenser and the water supply to this condenser is controlled so as to give a relatively constant temperature in the condenser tail pipe. This tail pipe water, which is contaminated with any liquor and pulp carried over in the blow system, is stored in the top of an accumulator tank. Hot water from the top of the tank is withdrawn through screens and passed in liquid-to-liquid contact through heat exchangers which may be of various types but are constructed usually of spiral plates. Cooled contaminated water from the heat exchanger then flows to the bottom of the accumulator tank and is used to operate the parallel flow condenser on the next blow. The wash water is heated by passing countercurrently through the liquid-to-liquid heat exchanger.

This system has the advantage that the contaminated liquid can be cooled below the boiling point and thus a larger percentage of heat can be recovered than with the surface condenser system. It has, however, several inherent disadvantages. First, the parallel flow condenser is not as efficient as the countercurrent flow condenser and it is more difficult to control the tail pipe temperature by varying the water quantity circulated. Second, there is no free blow to atmosphere in the event of failure of the condenser water pump or if water in the accumulator tank should become entirely heated. Steam must blow down through the condenser into the top of the ac-

cumulator tank and out the tank vent. This frequently results in pressure building up on the blow system, the loss of a large amount of hot contaminated water from the accumulator tank to the sewer or requires the installation of expensive and unreliable pressure relief valves.

On the heat exchanger side, the screens employed are difficult to keep clean and, if they are bypassed, there is no means whatever of keeping pulp accumulations out of the heat exchangers, consequently reducing their effectiveness and often plugging them completely. In the event of corrosion or other failure of the spiral heat exchanger, the complete heating surface must be replaced. This would not be the case if tubular exchangers were used, where the individual tubes are replaceable and may be cleaned as required.

Vapor-to-Liquid Exchanger Jet Condenser System

The difficulties which have been experienced with both the surface condenser and the liquid-to-liquid jet condenser systems may be overcome by the arrangement shown in Fig. 7. Figure 8 shows an arrangement indicating temperatures and flows throughout the system. Figure 9 shows a typical installation.

Steam received from the digester blow system is condensed in a countercurrent condenser, and the vent from this condenser is led to the top of the contaminated water accumulator tank at a point above the water level. This tank forms a second cyclone separator while still providing a free blow to atmosphere. Cooled water from the bottom of the accumulator tank flows by gravity to the upper portion of the countercurrent condenser. The water and condensed steam are pumped from the bottom of the condenser to the upper section of the accumulator tank, where the heated water collects, apart from the colder water in the bottom. The accumulator tank is usually made of large proportions to provide adequate storage and to insure against loss of heat in case several blows are made in abnormally quick succession.

A novel feature of this system is the flash heater in which the heat in the contaminated water is transmitted to the clean wash water, as shown at the left of Fig. 7 and in more detail in Fig. 8. The flash-heater unit consists of two stages, one above the other. Hot contaminated water flows to the bottom of the first stage, which is in the upper section of the heater. A vacuum of 17 to 18 inches Hg is maintained by a steam jet and the level of the hot water cannot rise more than one to two feet above the bottom of the

FIG. 9

compartment. On entering the compartment, part of the hot, contaminated water flashes into steam until the temperature of the water reaches a temperature corresponding to the vacuum maintained in the compartment. These clean vapors which have left behind any entrained pulp particles, rise to the upper part of the compartment where they come in contact with a tube bundle through which fresh water is flowing. The steam condenses and heats the fresh water passing through the tubes. Noncondensable gases are removed by the steam jet and vented to atmosphere while the condensate drops back to the pool at the bottom of the compartment.

The cooled contaminated water then passes through a loop seal to the lower compartment where the process is repeated at a higher vacuum, and the cooled returns from this compartment are pumped back into the bottom of the contaminated water accumulator tank. The fresh water passes through the heater countercurrent to the contaminated water, entering at the lower tube bundle and leaving from the upper tube bundle. These tube bundles may be made multipass to give the desired liquid velocity and heat transfer. The steam used by the jets to maintain vacuum is condensed in an after-condenser so that its latent heat is absorbed by the wash water.

This system possesses the great advantage that the

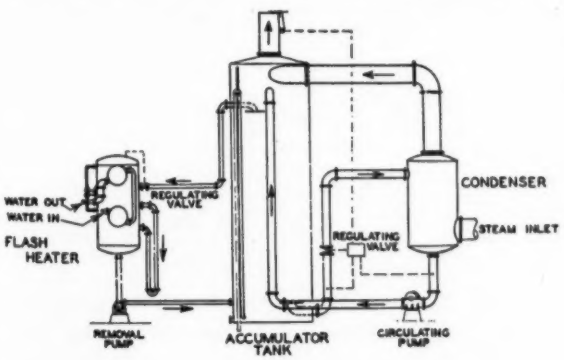


FIG. 7

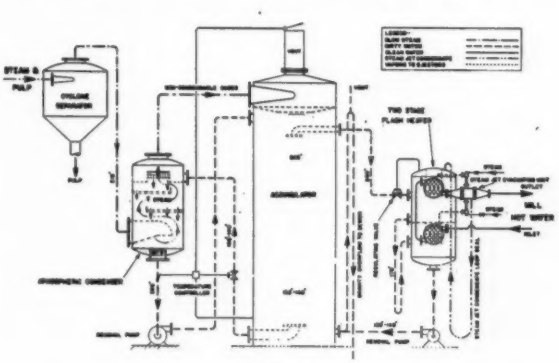


FIG. 8

pulp accumulations in the contaminated water do not contaminate the heating surface, because the pulp is left behind when the clean vapors flash and rise around the tube bundles. The heat transfer is much higher than with the liquid-to-liquid exchanger, because the transfer rate from a film of condensing vapors to a tube is much higher than from liquid to a metal wall.

Control

An accurate and sensitive control is an indispensable part of any heat recovery system. The temperature of the water leaving the condenser is kept as high as possible while at the same time condensing all of the steam entering the condenser. Temperature regualtion is obtained by varying the amount of cold water flowing to the condenser by means of a valve in the supply line. The control must be sensitive to follow variations in the flow of steam and requires an instrument with stabilizing elements adjusted to prevent overtravel, without detracting from the sensitivity or speed of response to changes required.

The condenser regulator should be provided with some initial impulse device to start the flow of water at the beginning of the blow. The thermostatic element that regulates the flow, once is has begun, responds too slowly to prevent loss of heat before it can function to open the water valve. Pressure in the steam line to the condenser has been used to provide this initial impulse, but has not been satisfactory because the connections quickly plug with liquor and pulp that are carried in the steam. Secondary thermostatic elements, provided with large surfaces and installed in the vents to the condensers, have been used but are unsatisfactory as these are also slow to respond.

A device resembling a flapper has been developed for this purpose and has been highly satisfactory. A plate of about half the area of the vent is hinged at one edge and counterbalanced. At the start of a blow, the air discharged from the lines and bodies ahead of the vent, deflects the plate and operates an enclosed switch which instantly opens the water valve to the condenser to meet the incoming steam. There is no loss of steam as the air being vented from the lines and bodies ahead of the initial impulse device provides sufficient anticipation of the flow of steam to eliminate the time lag inherent in any other method tried.

In all heat recovery installations, it may happen that the succession of blows will make more heat available in a given period than can be used as hot wash water, and the storage or accumulator tank may become filled with hot water so that no cold water will be available to condense the following blow. When this condition occurs a thermostatic element installed in the bottom of this tank prevents the valve from admitting water to the condenser. The condenser must be of a design that allows free flow of steam to the vents or else suitable relief valves must be provided ahead of the condenser to prevent excessive pressures from building up in the blow system.

Operations of the pump for circulating water through the condenser is also regulated by the control system to avoid operation under no flow conditions. The pump starts and stops in response to the control and runs only when the valve admitting water to the condenser is open, thus saving power.

It is essential to control the flow of recirculated water through the heat exchanger apparatus. Flow of clean water being heated varies with the demands of the mill and a storage tank big enough to overcome these fluctuations under all conditions would be excessive. Smaller storage facilities will be satisfactory and far more economical provided a suitable control system is used. Without such a control the circulation of contaminated water might be unnecessarily large, resulting in the water returning to the accumulator at higher temperature than desired. This would reduce the condensing capacity of the system and bring about loss of heat in case of successive blows.

The flow control as applied to either spiral or shell-and-tube exchangers consists of a thermostatic element in the hot water line leaving the exchangers which regulates the quantity of circulated water delivered to the exchangers. Thus, the flow of circulated water is held to the minimum required to heat the clean water to the temperature desired. In the vapor-to-liquid system, the vacuum in the upper compartment determines the flow of circulated contaminated water. When the flow of contaminated water into the flash heater is not sufficient to provide the clean water temperature desired, the load on the steam jet decreases and the vacuum increases. When too much water flows to the flash heater, the vacuum will be correspondingly decreased. A diaphragm-operated valve responds to these vacuum changes and adjusts the flow of circulated water accordingly. When the vacuum is held constant, the vapor temperature in the compartment remains fixed, thus controlling the temperature of the clean water leaving the heater.

Although many types of control have been applied to heat recovery systems, none have proved as satisfactory as electrically operated units. Both air and hydraulically operated control systems have been tried, but their performance has left much to be desired. With electric control, the initial impulse device, as well as overtemperature elements, are wired to supersede momentarily the normal temperature response without altering the accuracy of the temperature regulator under normal conditions of flow. The electric regulator is in the form of a push-button station and permits regulation of water flow to the condenser by remote manual control on the digester charging floor, if desired. A clutch and handwheel are provided at the valve actuator so that it may be manually controlled at this point.

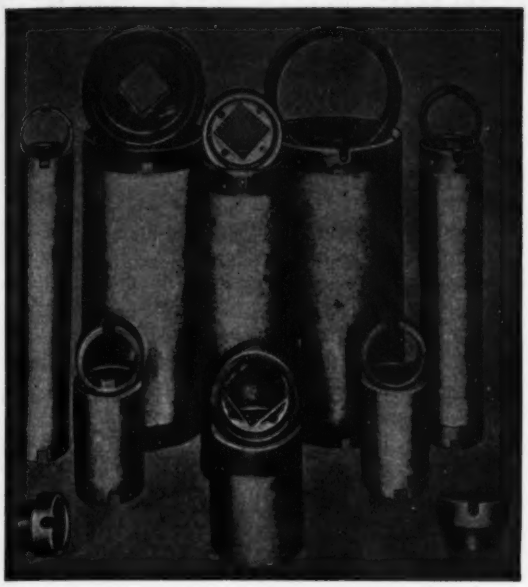
Advantages

The advantages of the vapor-to-liquid flash heater system are as follows: (1) completely automatic control; (2) no possibility of pulp accumulations fouling heating surfaces; (3) use of countercurrent flow in condenser; (4) free blow to atmosphere in case of failure of water supply to the condenser, or irregular blowing schedule; (5) heating surface elements individually replaceable; (6) heating surface cleanable internally if fresh water is of scaling nature; and (7) separator effect on condenser vent to prevent carryover of water from the stack.

TAPPI Data Sheet Correction

About 70 pages of technical and operating data have been recently mailed to all TAPPI members as an addition to the manual of TAPPI Data Sheets.

An error in sequence of the pages of TAPPI Data Sheet 57 (Identification of Metals and Alloys) has been noted. TAPPI Data Sheet 57B should be 57C, and 57C should be 57B.



ELIXMAN

C Straight wound paper cores made in sizes from 2" to 10" inside diameter with any thickness wall required.

A Long draw protected slot caps of heavy gauge steel in all standard sizes.

P Heavy duty caps with reenforced square hole. This new patented feature of reenforcement gives added strength and durability.

S

CORES

Samples of caps or cores will be gladly submitted

ELIXMAN PAPER CORE COMPANY, INC.
CORINTH, N. Y.

The Textile-Finishing Machinery Co.

New York Office
50 Church St.

Southern Office
Johnston Bldg., Charlotte, N. C.

Providence, R. I.

Imports of Paper and Paper Making Stock

Giving Manifests of New York, Boston, Philadelphia and Other Ports of Newsprint, Wrapping, Writing, Coated, Blotting, Tissue, Strawboard; Bleached Sulphite More Acute—Some Grades of Old Waste Lower.

Effective September 30, 1939, under Treasury Decision 49,970, all publications, exchanges and trade associations, were denied access to import manifests at the New York Customs House. The Paper Trade Journal and other interested parties have vigorously protested this ruling, and as soon as the order of the Treasury Department is modified or rescinded, full publication of all manifests will be resumed in these columns. In the interim, the Paper Trade Journal is making every possible effort to gather all available information from manifests, at various outside sources.

NEW YORK IMPORTS

WEEK ENDING JANUARY 25, 1941

SUMMARY

Cigarette paper	1,385 cs.
Newsprint	5,896 rolls
Bristol boards	3 cs.
Filter paper	22 cs.
Photo paper	16 cs.
Decalcomania paper	39 cs.
Tissue paper	1 cs.

CIGARETTE PAPER

Champagne Paper Corp., ——, Martinique, 678 cs.
De Manduit Paper Corp., ——, Martinique, 633 cs.
Clark Fruitier, ——, Martinique, 74 cs.

NEWSPRINT

——, ——, Liverpool, 5,896 rolls.

BRISTOL BOARDS

——, ——, Liverpool, 3 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., ——, Liverpool, 5 cs.
H. Reeve Angel & Co., Inc., ——, Liverpool, 17 cs.

PHOTO PAPER

——, ——, Liverpool, 16 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., ——, Liverpool, 36 cs., (duplex).
——, ——, Liverpool, 3 cs.

TISSUE PAPER

——, ——, Liverpool, 1 cs.

RAGS, BAGGINGS, ETC.

——, ——, Liverpool, 43 bls. waste paper.
——, ——, Calcutta, 500 bls. cotton waste.
——, ——, Liverpool, 116 bls. rags, 6 bls. thread waste, 57 bls. flax waste.
Duncan Fox & Co., ——, Cristobal, 83 bls. cotton waste.

OLD ROPE

——, ——, Calcutta, 750 bls. old hemp rope cuttings.

HIDE GLUE

——, ——, Buenos Aires, 100 bags, (ground).

HIDE CUTTINGS

——, ——, Liverpool, 596 bags.

CASEIN

American British Chemical Supplies, ——, Buenos Aires, 5,600 bags.
Chase National Bank, ——, Buenos Aires, 834 bags.
A. Hurst & Co., ——, Buenos Aires, 50 bags.
——, ——, Buenos Aires, 1,052 bags.

PHILADELPHIA IMPORTS

WEEK ENDING JANUARY 25, 1941

Casein Co., of America, Inc., ——, Buenos Aires, 425 bags.
A. Hurst & Co., ——, Buenos Aires, 600 bags, 30,300 kilos.

LOS ANGELES IMPORTS

WEEK ENDING JANUARY 25, 1941

——, ——, Ocean Falls, 5,834 rolls newsprint, 2,161 rolls newsprint waste.
——, ——, Powell River, 1,243 pkgs. newsprint.

Paper Man on Defense Survey

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., January 27, 1941—W. C. Robinson of Dill & Collins, R. W. Johnson of Leeds & Northrup Company and H. S. Langdon of SKF Industries have been appointed on the personnel division dealing with problems of men in defense industries in connection with a survey of Philadelphia's "available but unused" defense facilities that is being conducted by the Philadelphia Chamber of Commerce. The survey will be the first of a major industrial area in the United States. The results will be turned over to the Federal Government, particularly branches connected with national defense. Compilations of the information also will go to large contractors with possible subcontracts to let. In addition to giving Government agencies a picture of still idle defense production facilities, Chamber of Commerce officials believe the survey will bring more contracts to local firms.

This survey is being made through a questionnaire prepared by the Industrial Committee of National Defense of the Chamber of Commerce. All manufacturers in the Philadelphia area have received the questionnaire. Each factory's volume, unused capacity, work now being done and work for defense which still could be done will be included in a completed questionnaire. Full data on physical features of the factory, its transportation and power facilities, its inventory of productive equipment and details of its personnel also will be made available.

H. F. Harrison Made Vice President

Henry F. Harrison, who has been sales manager of the West Virginia Pulp and Paper Company for a great many years, and who has been associated with the company almost since its organization, was elected vice-president at the meeting of the board of directors after their annual stockholders meeting held January 21. Mr. Harrison has a very wide acquaintance with the paper industry generally as well as the publishing and printing industry, all of whom will be gratified to learn of his promotion by the management of the company he has served for so many years.

More than just a TRADE MARK

EXCELSIOR KNOX Woolen Co. Camden, Me. FELTS & JACKETS

BUT also a guarantee by men who for 75 years have prided themselves in making finer felts. TO YOU —this is the mark of dependability, longer felt life and greater saving.

KNOX WOOLEN CO.
CAMDEN, MAINE.

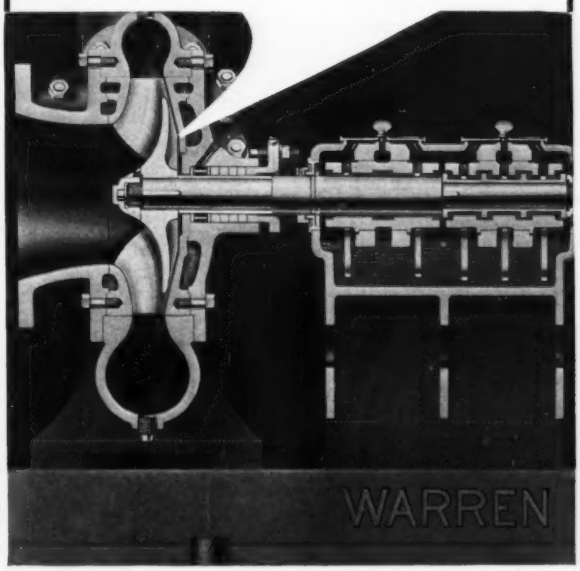
PRICE & PIERCE, LTD

Wood Pulp & Paper Agents

60 East 42nd Street New York City

The Impeller that scrubs its back . .

AND TAKES A LOAD OFF YOUR MIND.



Behind the impeller is one of the biggest reasons Warren stock pumps *stay with their jobs.* Special vanes, developed and constantly improved by Warren engineers, keep the back of the impeller free of stock, prevent binding and costly shut-downs. Many impeller designs, moreover, are available for each size of pump. Suction openings are also varied to suit the specific requirements of the job . . . These and other variations from "standard" designs, plus hard-earned knowledge to apply them correctly, enable Warren to *"build the pump to fit the job."* On all your pumping problems, check with Warren.

WARREN PUMPS

WARREN STEAM PUMP COMPANY, INCORPORATED
WARREN, MASSACHUSETTS

New York Paper and Pulp Market Review

Many Grades of Paper Reflect More Activity This Week — Pulp Market More Active With Unbleached Sulphite and Northern Kraft Pulp Scarce—Several Lower Grades of Paper Stock Higher.

Office of the PAPER TRADE JOURNAL,
Wednesday, January 29, 1941.

Wholesale paper sales continue at a good level with the prospect of increasing volume in practically all grades of paper and paper products. Reports from many manufacturers' representatives, jobbers, and general paper merchants during the current week reflect the expectation of slowly increasing demand, resulting in a firm and active paper market and an upward readjustment of prices. The outlook for a big year in paper is bright.

The index of general business activity rose to 123.8 per cent for the week ended January 18, from 123.5 per cent for the previous week, compared with 108.1 per cent for the corresponding week last year.

Paper production of 215 mills for the week ended January 18 was estimated at 89.3 per cent, compared with 92.2 per cent for 1940, with 78.2 per cent for 1939, with 66.0 per cent for 1938, and with 88.9 per cent for the corresponding week for 1937.

Paper board production for the week ended January 18 was 78.0 per cent, compared with 72.0 per cent for 1940, with 65.0 per cent for 1939, with 58.0 per cent for 1938, and with 81.0 per cent for the corresponding week for 1937.

The slow but steady rise in industrial production, in commodity prices and in employment, is an encouraging sign of gradual advancing business activity. As the non-durable goods, including paper, closely follow the trend of general business activity, the advances in these indices is indicative of rising demand and expanding sales in many lines of paper and paper products.

Wholesale business at this date is improving, according to many reports from the trade. Kraft paper demand continues active at a high level and some grades of sulphite papers are also improved. Ground wood papers also reflect more activity and some grades of paper board, particularly the container grades, are reported at this date to be more active than usual at this time of the year. No important change in market quotations has been reported on any grade of paper this week.

Mechanical Pulp

More inquiries and a little more activity is reported in mechanical pulp this week. Prices are firm and no important change from prevailing market quotations has been reported this week.

Chemical Pulp

The chemical pulp market is more active at this date. Prime grades of unbleached sulphite are reported scarce. In some quarters of the trade reports indicate that the output of the higher grades of northern kraft pulp, comparable to the best imported brands, is about sold for sometime. No important change from prevailing market quotations has been reported this week.

Rags

Mill buying of the higher grades of rags continues for immediate needs, with no important change from prevailing market quotations, although reports indicate that sizable orders are likely to be accepted at a little under prevailing quotations.

Old Rope and Bagging

Prices on old Manila rope continue firm and unchanged, with mills buying more or less steadily and readily absorbing the limited supplies from all sources.

The old bagging market continues firm and supplies limited. No important change from prevailing market quotations has been reported at this date.

Old Waste Paper

The old waste paper market is stronger this week and prices firmer, particularly in the lower grades. The soft spots in this market at this date are in white and colored ledger stock, which are lower, with white ledger stock currently quoted at from 1.60 to 1.70 and colored ledgers at from 1.20 to 1.30.

Strictly folded news is higher at from .50 to .55; corrugated has advanced at from .45 to .50, and No. 1 mixed paper is up to .30 to .35 at this date. No other changes of importance have been reported this week.

Twine

Reports from the twine market indicate no important change in prices on any grade of hard or soft fiber twine. Prevailing prices are relatively firm on standard grades. Prospects in this market are generally viewed in the trade as good.

Kraft Assn. Elects C. W. Boyce

The Kraft Paper Association at a meeting held on January 14 elected Charles W. Boyce as its new secretary-treasurer, to take office immediately.

Mr. Boyce, formerly executive secretary of the American Paper and Pulp Association, succeeds S. M. Hudson, partner in Stevenson, Jordon & Harrison, Inc., who had been employed as business managers of the Kraft Paper Association since 1933.

The offices of the Kraft Paper Association are to be moved from 19 West 44th street to the Chanin Building at 122 East 42nd street on or about February 1.

W. H. Kennety Made Vice President

FITCHBURG, Mass., January 29, 1941—W. H. Kennety, general manager of the Fitchburg Paper Company has been elected first vice president and made a member of the board of directors of the company.

THE DRAPER FELTS

All kinds and styles of Felts for all kinds and styles of Papers.

Write us about your Felt problems and let us help you reduce your Felt Costs—we will call anywhere at any time.

DRAPER BROS. COMPANY

CANTON, MASS.

Woolen manufacturers since 1856

West Virginia Pulp and Paper Company

230 Park Ave. New York
35 East Wacker Drive Chicago
Public Ledger Building Philadelphia, Pa.
503 Market St. San Francisco, Cal.

Manufacturers of

ENGLISH FINISH SUPERCALENDERED MACHINE FINISHED BOOK and LITHOGRAPHIC PAPERS

Offset, Envelope, Bond, Writing, Mimeograph, Ledger, Eggshell, Cover and Music Papers, Index Bristol, Post Card and Label Papers

HIGH GRADE COATED BOOK

• • • •

KRAFT WRAPPING AND KRAFT ENVELOPE
KRAFT LINER BOARD
BLEACHED SULPHITE AND SODA PULP
BLEACHED AND UNBLEACHED KRAFT PULP

MILLS:

Mechanicville, New York
Luke, Maryland
Covington, Virginia
Tyrone, Pennsylvania
Williamsburg, Pennsylvania
Cass, West Virginia
Charleston, South Carolina

PULP MILL MACH'Y FINISHING ROOM MACH'Y
— FRICTION CLUTCHES —

The MOORE & WHITE Co.
PHILADELPHIA, PA.
N. PHILA. STA. PENNA R.R.
PAPER MILL MACHINERY

INDUSTRIAL TYCOL OILS-GREASES

A COMPLETE LINE

OF TYCOL LUBRICANTS SCIENTIFICALLY ENGINEERED FOR EVERY INDUSTRIAL USE

Tide Water Associated Oil Co.
Eastern Division
17 Battery Place, New York, N.Y.

D E - I N K I N G

Oxford Pulp Process for De-inking of waste paper made from Chemical pulp.
Sterling Process for the De-inking of news.
Continuous cold water processes. Low conversion costs, small loss of fiber with no loss of strength.

Write for particulars

AMERICAN INDUSTRIAL COMPANY
631 Niagara Street American Industrial Building Buffalo, New York

INTERNATIONAL PULP CO.

NEW YORK CITY

ASBESTINE FILLER
Reg. U. S. Patent Office 90% Retention

Marcy Open End Rod Mills

Mix and Beat Paper Stocks Better

The Mine and Smelter Supply Co.
Denver, Colorado, U. S. A.

Jordan Shell and Plug Fillings
TRADE-MARK
POSITIVE
Reg. U. S. Pat. Off.
High Speed Disc Refiner
THE BAHR BROTHERS MFG. CO.
MARION, INDIANA, U.S.A.

CABBLE WIRES

WM. CABBLE EXC. WIRE MFG. CO.
80-88 AINSLIE ST., B'KLYN, N. Y.

SERVING THE INDUSTRY SINCE 1848

MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL,
Wednesday, January 29, 1941.

BLANC FIXE—Quotations on blanc fixe are firm and continue unchanged at prevailing market levels. Demand reported fair for the week. The pulp is currently quoted at $35 per ton, in barrels, at works; the powder is offered at $50 per ton, f.o.b., works.

BLEACHING POWDER—Prices on bleaching powder are firm with demand reported good for the week. Bleaching powder is currently quoted at $2 per 100 pounds, in drums at works.

CASEIN—Quotations on casein are reported firm. Demand moderate for the week. Standard domestic casein, 20-30 mesh, is currently quoted at 13 cents per pound; 80-100 mesh, at 13½ cents per pound; all prices in bags, car lots. Standard Argentina casein is currently offered at 12½ cents per pound. No quotations on French casein.

CAUSTIC SODA—Prices on caustic soda are firm and unchanged. Shipments continue in steady volume. Solid caustic soda is currently quoted at $2.30 per 100 pounds; flake and ground at $2.70 per 100 pounds, in drums, at works.

CHINA CLAY—Quotations on china clay are firm and continue unchanged this week. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay at from $12 to $22 per ton, at mines. Imported clay is quoted at from $13 to $25 per long ton, ship side.

CHLORINE—The demand for chlorine is reported good. Prices are firm and the market strong for the current week. Chlorine is currently quoted at $1.75 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—The rosin market is reported as firm with prices lower for the week, "G" gum rosin is currently quoted at $1.63 per 100 pounds, in barrels, Savannah, "FF" wood rosin is currently quoted at $1.62 per 100 pounds, in barrels, New York. Seventy per cent gum rosin is quoted at $2.39 per 100 pounds, f.o.b., works.

SALT CAKE—Prices on salt cake are firm under a good demand with current quotations continuing nominal. Domestic salt cake is currently quoted at $17 per ton in bulk; chrome salt cake at $16 per ton. All prices in car lots, f.o.b., shipping point. The quotation of $16.50 per ton on imported salt cake continues nominal.

SODA ASH—Quotations on soda ash are firm and continue to conform to prevailing market quotations. Demand reported moderate. Quotations on soda ash in car lots, per 100 pounds, are as follows: in bulk, $.90; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Prices on corn starch are firm and continue unchanged for the current week. Pearl is currently quoted at $2.95 per 100 pounds; powdered starch at $3.05 per 100 pounds; all prices in bags, car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—Quotations on sulphate of alumina are firm. Shipments reported steady for the week. The commercial grades are currently quoted at $1.15 per 100 pounds; iron free at $1.60 per 100 pounds, in bags, car lots, f.o.b., works.

SULPHUR—Prices on sulphur are firm and continue to conform to prevailing market quotations. Annual contracts are currently quoted at $16 per long ton, f.o.b., mines. Spot and nearby car lots are quoted at $19 per ton.

TALC—Quotations on talc are firm and continue unchanged at prevailing market prices. Domestic talc is currently quoted at from $15 to $21 per ton, at mills. No quotations on imported talc.

MARKET QUOTATIONS

Paper

(Delivered New York)

News, per ton—			
Roll, contract	$50.00	@	—
Sheets	58.00	"	—
Kraft—per cwt.—Delivered Zone A			
Northern, Extra Quality	$5.25	@	$5.75
Superstandard	4.87½	"	5.25
Northern Standard Wrapping	4.37½	"	4.62½
Standard Wrapping	4.25	"	—
Tissues—Per Ream—Carlots			
White No. 1	.97½	"	—
White No. 1 M. G.	.95	"	—
White No. 1½	.80	"	—
White No. 2	.75	"	—
Anti-Tarnish M. G.	.80	"	—
Colored	.85	"	—
Kraft	.87½	"	—
Manila	.77½	"	—
Unbl. Toilet, 1 M.	3.75	"	—
Bleached Toilet	5.26	"	—
Paper Towels, Per Case—			
Unbleached, Jr.	2.10	"	—
Bleached, Jr.	3.60	"	—
Manila—per cwt.—C. l. f. a.			
No. 1 Jute	8.25	@	10.25
No. 1 Manila Wrapping, 35 lb.	5.25	"	—
No. 2 Manila Wrapping, 35 lb.	5.00	"	—
Boards, per ton—			
News	35.00	@	40.00
Chip	35.00	"	40.00
Sgl. Mla. Ll. Chip	52.50	"	55.00
White Pat. Coated	65.00	"	67.50
Kraft Liners	55.00	"	—
Binders Boards	73.00	"	80.00

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:

	Bonds		Ledgers
100% Rag Ext. No. 1	$39.10 @	$46.00	$40.25 @ $47.25
100% Rag	31.05 "	36.50	32.20 " 37.75
85% Rag	.... "	....	29.90 " 35.00
75% Rag	23.60 "	27.75	24.75 " 29.00
65% Rag	.... "	....	21.65 " 26.25
50% Rag	17.55 "	21.50	18.70 " 22.75
25% Rag	14.65 "	17.75	15.80 " 19.25

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items. Delivered in Zone 1:

	Bonds		Ledgers
No. 1	$9.35 @	$11.50	$11.55 @ $12.75
No. 2	8.50 "	10.25	9.65 " 11.75
No. 3	8.05 "	9.25	9.20 " 11.25
No. 4	7.70 "	9.50	8.90 " 10.75

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper.

Delivered in Zone 1:

No. 1 Glossy Coated	$11.90	@	$13.50
No. 2 Glossy Coated	10.35	"	11.75
No. 3 Glossy Coated	9.55	"	11.00
No. 4 Glossy Coated	9.15	"	10.50
No. 1 Antique (watermarked)	9.05	"	10.50
No. 2 Offset	8.40	"	9.75
A Grade E. F.	8.20	"	9.50
A Grade S. & S. C.	8.45	"	9.75
B Grade E. F.	7.65	"	8.75
B Grade S. & S. C.	7.90	"	9.00
C Grade E. F.	7.35	"	8.50
C Grade S. & S. C.	7.60	"	8.75
D Grade E. F.	7.10	"	8.25
D Grade S. & S. C.	7.35	"	8.50

Ivory & India at $.50 cwt. extra.

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—	
Moist	No prices
Dry	No prices

(Delivered)

No. 1 Domestic and Canadian	40.00	@ 42.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Prime Bleached Sulphite	3.72½	@	3.87½
Prime Qualities—			
Easy-Bleaching Sulphite	3.17½	"	3.75
Strong Unbleached Sulphite	3.17½	"	3.75
News Grade, delivered			
Unbleached Sulphite	58.00	"	63.75

(On Dock, Atlantic Ports)

Kraft Bleached	4.12½	"	—
Kraft Light & Strong	3.50	"	3.90
Kraft No. 1	3.40	"	3.80

(F. o. b. Pulp Mill)

Kraft Domestic and Canadian	2.75	"	3.37½

(Delivered)

Soda Bleached	3.30	"	—

Add 60 cents per short ton, dock charges for Albany; $2.50 for Lake Ports East and $3.50 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1.	6.50	@	6.75
Silesias No. 1	4.50	"	4.65
New Unbleached	6.25	"	6.50
Blue Overall	4.15	"	4.50
Fancy	3.25	"	3.50
Washables	2.00	"	2.15
Mixed Khaki Cuttings	2.75	"	3.00
O. D. Khaki Cuttings	3.00	"	3.15

Old Rags

White, No. 1—			
Repacked	3.50	"	3.65
Miscellaneous	2.75	"	3.00
White, No. 2—			
Repacked	2.50	"	2.75
Miscellaneous	2.00	"	2.25
Thirds and Blues—			
Repacked	1.50	"	1.65
Miscellaneous	1.10	"	1.25
Roofing Rags—			
No. 1	1.15	"	1.20
No. 2	1.00	"	1.05
No. 3 (bagging)	.90	"	1.00
No. 4	.60	"	.65
No. 5A	.60	"	.65

Foreign Rags

All prices nominal.

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	"	2.20
New Light Silesias	5.50	"	5.75
Light Flannelettes	5.50	"	5.75
New White Cuttings	7.00	"	7.50
New Light Oxfords	4.00	"	4.50
New Light Prints	3.00	"	3.25

Old Rags

No. 1 White Linens	7.50	"	8.50
No. 2 White Linens	6.50	"	7.50
No. 3 White Linens	4.50	"	—

J. Andersen & Co.

Selling Agents

21 East 40th Street

New York

CHEMICAL & MECHANICAL PULP

Kraft Pulp

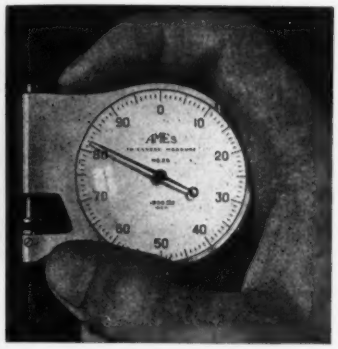
BERGVIK OCH ALA NYA AKTIEBOLAG
Söderhamn, Sweden
KALIX TRÄINDUSTRI AKTIEBOLAG
Vanaffjörden, Sweden
MUNKSUNDS AKTIEBOLAG
Munksund, Sweden
NENSJÖ CELLULOSA A.-B.
Sprängsvikan, Sweden

Unbleached Sulphite

AKTIESELSKABET GREAKER CELLULOSEFABRIK
Greaker, Norway
BERGVIK OCH ALA NYA AKTIEBOLAG
Söderhamn, Sweden
CELLULOSEFABRIKS A.-G.
Bratislava, Czecho-Slovakia
SVANÖ AKTIEBOLAG
Svanö, Sweden

Bleached Sulphite

KELLNER-PARTINGTON PAPER PULP CO., LTD.
Sarpsborg, Norway
Edsvalla, Sweden
Hallein & Villach, Austria



AMES Thickness Measure No. 25

This compactly designed instrument (the only one of its kind made) meets every demand for a neat pocket gauge to measure thicknesses with speed and accuracy.

$10.50
FULLY GUARANTEED

B. C. AMES CO.
WALTHAM, MASS.

CASEIN

Uniform Quality

Dependable Service

Special Types to Meet Unusual Requirements

CASEIN COMPANY OF AMERICA
DIVISION OF THE BORDEN COMPANY
350 Madison Avenue, New York, N. Y.
40 Years of Service to Users of Casein Products

WATERBURY FELTS

Are Made By

H. WATERBURY & SONS CO.
ORISKANY, NEW YORK

SCREENS of Perforated Metal

The Harrington & King Perforating Co.
5652 Fillmore St. Chicago Ill. 114 Liberty St. New York, N.Y.

ENGLISH ECCO CLAYS CLAYS

ECCO CLAYS
TRADE MARK

UNIFORM • SUPERIOR • DEPENDABLE

English China Clays Sales Corporation
551 Fifth Avenue, New York City

No. 4 White Linens.	2.25	@	3.25
No. 1 White Cotton.	4.25	"	4.75
No. 2 White Cotton.	3.25	"	3.75
No. 3 White Cotton.	2.50	"	3.00
No. 4 White Cotton.	1.90	"	2.20
Extra Light Prints..	2.00	"	2.40
Ord. Light Prints...	1.75	"	2.15
Med. Light Prints...	1.55	"	1.95
Dutch Blue Cottons.	2.25	"	2.50
French Blue Linens.	3.00	"	—
Checks and Blues...	2.00	"	—
Linsey Garments....	1.90	"	2.00
Dark Cottons.....	1.50	"	1.60
Old Shopperies.....	1.30	"	1.45
New Shopperies.....	1.45	"	1.50
French Blues	2.25	"	2.50

Old Rope and Bagging

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	2.50	@	2.75
Wool Tares, light....	2.00	"	2.25
Wool Tares, heavy..	2.12½	"	2.25
Bright Bagging	2.25	"	2.50
Manila Rope—			
Foreign	5.25	"	5.50
Domestic	5.25	"	5.50
Jute Threads.....	2.75	"	3.00
Sisal Strings	2.10	"	2.35
Mixed Strings.....	1.10	"	1.20

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	3.10	@	3.25
Ordinary Hard White No. 1....	2.25	"	2.50
Soft White No. 1..	1.80	"	1.90
Soft White Extra..	2.50	"	2.60
Flat Stock—			
Stitchless	1.10	"	1.25
Overissue Mag.....	.90	"	1.00
Solid Flat Book...	.80	"	.85
Crumbled No. 1...	.70	"	.75
Ledger White Stock.	1.60	"	1.70
Ledger Stock Colored	1.20	"	1.30
Manila—			
New Env. Cut....	1.70	"	1.80
New Cuttings.....	1.30	"	1.40
Old Kraft Machine Compressed bales..	1.40	"	1.50
News—			
No. 1 White News	1.75	"	1.90
Strictly Overissue..	.70	"	.75
Strictly Folded....	.50	"	.55
Corrugated	.45	"	.50
No. 1 Mixed Paper..	.30	"	.35

Twines

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.18	@	—
White Hemp.....	.18	"	—
Fine Polished—			
Fine India	.22	"	—
Unpolished—			
Box	.16	"	—
Paper Makers.....	.13	"	—
Tube Rope.....	.14¾	"	—
Wall Paper.....	.16	"	—
Wrapping	.16	"	—
Soft Fiber Rope...	.14	"	—
Cotton	.24	"	—
(Hard Fiber)			
Medium Java.....	.10	"	—
Mex. Sisal	.09½	"	—
Manila	.23	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White No. 1.	.07	@	.07¼
New White No. 2.	.03½	"	.04
Light Silesias.....	—	"	.04½
Silesias, No. 1....	—	"	.04
Black Silesias, soft	—	"	.03
New Unbleached..	.06	"	.06¼
Washable Prints...	.02¼	"	.02½
Washable No. 1..	—	"	.01½
Blue Overall.....	.04	"	.04½
Cottons—According to grades—			
Washable shredding	—	"	.01½
Fancy Percales....	—	"	.03
New Black Soft....	.02½	"	.02¾
New Light Seconds	—	"	.04
New Dark Seconds	—	"	1.50
Khaki Cuttings—			
No. 1 O. D.....	.03½	"	.03¾
No. 2 Mixed.....	.01¾	"	.02
Corduroy	.01¾	"	.01½
New Canvas.....	.04½	"	.05
New Black Mixed.	—	"	.02¼

Domestic Rags (Old)

White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	"	3.00
Thirds and Blues—			
Miscellaneous	1.35	"	1.50
Repacked	1.55	"	1.65
Black Stockings (Export)	3.50	"	4.00
Roofing Stock—			
Foreign No. 1....	Nominal		
Domestic No. 1...	1.20	"	1.25
Domestic No. 2...	1.00	"	1.05
Roofing Bagging..	.90	"	.95

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	Nominal		
Domestic	2.25	@	2.50
Manila Rope.....	—	"	5.50
Sisal Rope.....	2.00	"	2.25
Mixed Rope.....	.75	"	1.00
Scrap—			
No. 1.....	2.55	"	2.75
No. 2.....	—	"	1.50
Wool Tares, heavy..	3.75	"	4.00
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	2.25	"	2.50

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.40	@	2.50
No. 2 Hard White	2.10	"	2.15
No. 1 Soft White.	1.90	"	2.00
No. 2 Soft White.	1.60	"	1.75
No. 1 Mixed.....	.90	"	1.00
Solid Ledger Stock..	1.90	"	2.00
Ledger Stock, white.	1.50	"	1.60
Ledger Stock, colored	1.10	"	1.15
No. 1 Books, heavy..	.80	"	.85
Manila Cuttings.....	1.75	"	1.80
Print Manila.....	.50	"	.55
Container Manila....	.40	"	.45
Kraft Paper.....	1.25	"	1.30
No. 1 Mixed Paper..	.25	"	.30
Straw Board Chip...	.30	"	.35
Binders Board Chip..	.30	"	.35
Corrugated Board...	.50	"	.60
Overissue News.....	.70	"	.75
Old Newspapers.....	.50	"	.55

BOSTON

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.00	@	3.25
No. 1 Soft White	2.75	"	2.50
No. 2 Mixed.....	.75	"	.80
Solid Ledger Books..	1.50	"	1.75
Overissue Ledger Stock	1.75	"	2.00
Mixed Ledgers.....	1.50	"	1.75
No. 1 Heavy Books	1.10	"	1.20
No. 1 Books, Light..	.75	"	.85
Crumpled Stitchless Book Stock	.75	"	.85
Manila Env. Cuttings	1.85	"	2.00
Manila Envelope Cuttings, extra quality	2.35	"	2.60
White Blank News..	1.40	"	1.50
No. 1 Kraft.....	1.25	"	1.30
Extra No. 1 Kraft..	1.45	"	1.50
Mixed Papers.....	.30	"	—
Print Manila	.55	"	.60
Container Manila....	.60	"	.70
Old Newspapers.....	.50	@	.55
Paper Wool Strings.	.95	"	1.10
Overissue News.....	1.00	"	1.10
Box Board Chips....	.40	"	.45
Corrugated Boxes...	.45	"	.50
Kraft corrugated boxes	.85	"	.95
New Kraft Corrugated Cuttings	1.35	"	1.40
Screening Wrappers.	.70	"	.80

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	3.00	"	—
Domestic	2.80	"	3.00
Sisal Rope.....	2.90	"	3.00
Mixed Rope	.85	"	1.00
Transmission Rope—			
Foreign	2.50	"	2.75
Domestic	2.75	"	2.90
Soft Jute Rope.....	3.50	"	3.75
Manila Rope—			
Foreign	5.25	"	5.35
Domestic	5.50	"	5.75
Jute Carpet Threads	2.00	@	2.25
Bleachery Burlap....	4.00	"	3.25
Scrap Burlap—			
Foreign	2.60	"	2.65
Domestic	2.60	"	2.75
Scrap Sisal.....	2.75	"	3.00
Scrap Sisal for Shredding	2.90	"	3.25
Wool Tares—			
Foreign	2.70	"	2.80
Domestic	2.50	"	2.60
Aust. Wool Pouches.	2.75	"	3.00
New Burlap Cuttings	3.75	"	4.00
Heavy baling bagging	2.75	"	3.00
Paper Mill Bagging..	1.75	"	2.00
No. 2 Bagging.....	.75	"	.80

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints.	—	@	.03
Fancy Percales....	.04	"	.04¼
New White No. 1.	.06¾	"	.07
New Light Flannelettes	.05	"	.05¼
Canton Flannel, Bleached	.0635	"	.0650
Underwear Cutters, Bleached	.06	"	.0635
Silesias No. 1.....	.05	"	—
New Black Silesias..	3.00	"	3.25
Red Cotton Cuttings	.04	"	.05
Soft Unbleached...	.06	"	.06½
Blue Cheviots.....	.04¼	"	.04½
Fancy	.02	"	.02½
Washable	.02	"	.02½
Cottons—According to Grades—			
Blue Overalls.....	.04¼	"	.04¾
New Black, Soft..	.03	@	.03¼
Khaki Cuttings....	.02½	"	.03
O. D. Khaki.....	.02½	"	.03¼
Corduroy	.06¾	"	.07½
New Canvas.....	.06¾	"	.07½
B. V. D. Cuttings...	.06½	"	.06¾

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	2.75	@	3.75
Miscellaneous	2.40	"	2.60
White No. 2—			
Repacked	1.90	"	2.00
Miscellaneous	2.00	"	2.25
Twos and Blues.....	2.00	"	2.25
Old Blue Overalls...	1.60	"	2.00
Thirds and Blues....	1.50	"	1.75
Miscellaneous	1.25	"	1.35
Black Stockings.....	3.50	"	4.00
Roofing Stock—			
No. 1.....	1.20	"	1.30
No. 2.....	.95	"	1.00
No. 3.....	.85	"	.95

Foreign Rags

(F. o. b. Boston)

Canvas	.04¼	@	—
Dark Cottons.....	(nominal)		
Dutch Blues.....	(nominal)		
New Checks and Blues	(nominal)		
Old Fustians.....	(nominal)		
Old Linsey Garments.	(nominal)		
New Silesias.....	(nominal)		

CHICAGO

Waste Paper

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings....	3.15	@	—
No. 1 Hard White	2.50	"	2.65
No. 1 Soft White.	2.00	"	2.20
Ledger and Writings	.85	"	.95
Solid Books.....	.95	"	1.10
Blanks	1.50	"	1.60
Krafts	1.40	@	1.50
New Kraft Cuts....	1.60	"	1.75
Overissue News.....	1.00	"	1.10
Old Newspapers—			
No. 1 Folded News	.70	"	.80
No. 1 Mixed Paper	.40	"	.50
Roofing Stocks—			
No. 1.....	.95	"	1.00
No. 2.....	.85	"	.90

Utilize Leather Scraps for Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 29, 1941—The Hungarian paper industry is reported to be experimenting with a newly developed process which utilizes leather scraps and wastage for the manufacture of paper and paperboard. Previously such leather wastage had been burned or otherwise destroyed by leather-using industries, according to a recent report from the Forest Products Division, Department of Commerce. While details regarding the process have not been revealed, it is known that the waste is first subjected to a chemical solvent agent after which the resulting material is treated in a manner similar to that used in the production of paperboard.

It is claimed that the product thus obtained is very strong and water-resistant, and is similar to leather in many respects. When pressed very thin, it is said to produce an artificial paper, superior to ordinary paper in durability and ability to take printing. According to reports, this paper substitute can be produced at a cost considerably less than that of paper made from chemical pulp or rags.

Walter R. Guild is Made Secretary

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., January 27, 1941—The New England Paper Merchants Association is very fortunate in obtaining the services of Walter R. Guild, an experienced association executive and C. P. A., as executive secretary. For the time being, at least, the present office at 49 Federal street, will be headquarters.

The annual meeting of the Association is to be held February 6.